

Documented Code For glossaries v4.55

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Contents

1	Introduction	3
2	Main Package Code (glossaries.sty)	4
2.1	Package Definition	4
2.2	Package Options	7
2.3	Predefined Text	47
2.4	Xindy	57
2.5	Loops and conditionals	66
2.6	Defining new glossaries	74
2.7	Defining new entries	78
2.8	Resetting and unsetting entry flags	106
2.9	Keeping Track of How Many Times an Entry Has Been Unset . .	111
2.10	Loading files containing glossary entries	116
2.11	Using glossary entries in the text	117
	2.11.1 Links to glossary entries	122
	2.11.2 Displaying entry details without adding information to the glossary	169
2.12	Adding an entry to the glossary without generating text	180
2.13	Creating associated files	182
2.14	Writing information to associated files	204
2.15	Glossary Entry Cross-References	214
2.16	Displaying the glossary	216
2.17	Acronyms	248
2.18	Predefined acronym styles	253
2.19	Predefined Glossary Styles	271
2.20	Debugging Commands	272
2.21	Compatibility with version 2.07 and below	277

3	Glossary Styles	278
3.1	Glossary hyper-navigation definitions (<code>glossary-hypernav.sty</code>) . . .	278
3.2	In-line Style (<code>glossary-inline.sty</code>)	282
3.3	List Style (<code>glossary-list.sty</code>)	284
3.4	Glossary Styles using <code>longtable</code> (<code>glossary-long.sty</code>)	288
3.5	Glossary Styles using <code>longtable</code> and <code>booktabs</code> (<code>glossary-longbooktabs.sty</code>)	295
3.6	Glossary Styles using <code>longtable</code> (<code>glossary-longragged.sty</code>)	300
3.7	Glossary Styles using <code>multicol</code> (<code>glossary-mcols.sty</code>)	305
3.8	Glossary Styles using <code>supertabular</code> environment (<code>glossary-super.sty</code>)	311
3.9	Glossary Styles using <code>supertabular</code> environment (<code>glossary-superragged.sty</code>)	318
3.10	Tree Styles (<code>glossary-tree.sty</code>)	325
4	Multi-Lingual Support	334
4.1	Babel Captions (<code>glossaries-babel.sty</code>)	334
4.2	Polyglossia Captions (<code>glossaries-polyglossia.sty</code>)	335
5	Prefix Support (<code>glossaries-prefix Code</code>)	336
6	Accessibility Support (<code>glossaries-accsupp Code</code>)	343
6.1	Defining Replacement Text	345
6.2	Accessing Replacement Text	349
6.3	Displaying the Glossary	369
6.4	Acronyms	371
6.5	Debugging Commands	381
7	Backwards Compatibility	382
7.1	<code>glossaries-compatible-207</code>	382
7.2	<code>glossaries-compatible-307</code>	382
8	Rollback	383
8.1	Rollback v4.46 (<code>glossaries-2020-03-19.sty</code>)	383
8.2	Rollback v4.46 (<code>glossaries-accsupp-2020-03-19.sty</code>)	546
8.3	Rollback v4.46 (<code>glossaries-babel-2020-03-19.sty</code>)	581
8.4	Rollback v4.46 (<code>glossaries-compatible-207-2020-03-19.sty</code>)	582
8.5	Rollback v4.46 (<code>glossaries-compatible-307-2020-03-19.sty</code>)	587
8.6	Rollback v4.46 (<code>glossaries-polyglossia-2020-03-19.sty</code>)	598
8.7	Rollback v4.46 (<code>glossaries-prefix-2020-03-19.sty</code>)	598
8.8	Rollback v4.46 (<code>glossary-hypernav-2020-03-19.sty</code>)	603
8.9	Rollback v4.46 (<code>glossary-inline-2020-03-19.sty</code>)	604
8.10	Rollback v4.46 (<code>glossary-list-2020-03-19.sty</code>)	605
8.11	Rollback v4.46 (<code>glossary-list-2020-03-19.sty</code>)	607
8.12	Rollback v4.46 (<code>glossary-longbooktabs-2020-03-19.sty</code>)	610
8.13	Rollback v4.46 (<code>glossary-longragged-2020-03-19.sty</code>)	613
8.14	Rollback v4.46 (<code>glossary-mcols-2020-03-19.sty</code>)	616
8.15	Rollback v4.46 (<code>glossary-super-2020-03-19.sty</code>)	620
8.16	Rollback v4.46 (<code>glossary-superragged-2020-03-19.sty</code>)	624

8.17	Rollback v4.46 (glossary-tree-2020-03-19.sty)	627
8.18	Rollback v4.49 (glossaries-2021-11-01.sty)	633
8.19	Rollback v4.49 (glossaries-accsupp-2021-11-01.sty)	799
8.20	Rollback v4.49 (glossaries-babel-2021-11-01.sty)	834
8.21	Rollback v4.49 (glossaries-compatible-207-2021-11-01.sty)	835
8.22	Rollback v4.49 (glossaries-compatible-307-2021-11-01.sty)	841
8.23	Rollback v4.49 (glossaries-polyglossia-2021-11-01.sty)	851
8.24	Rollback v4.49 (glossaries-prefix-2021-11-01.sty)	851
8.25	Rollback v4.49 (glossary-hypernav-2021-11-01.sty)	856
8.26	Rollback v4.49 (glossary-inline-2021-11-01.sty)	857
8.27	Rollback v4.49 (glossary-list-2021-11-01.sty)	859
8.28	Rollback v4.49 (glossary-long-2021-11-01.sty)	861
8.29	Rollback v4.49 (glossary-longbooktabs-2021-11-01.sty)	864
8.30	Rollback v4.49 (glossary-longragged-2021-11-01.sty)	867
8.31	Rollback v4.49 (glossary-mcols-2021-11-01.sty)	870
8.32	Rollback v4.49 (glossary-super-2021-11-01.sty)	873
8.33	Rollback v4.49 (glossary-superragged-2021-11-01.sty)	877
8.34	Rollback v4.49 (glossary-tree-2021-11-01.sty)	881
8.35	Rollback v4.52 (glossaries-2022-11-03.sty)	886
8.36	Rollback v4.52 (glossary-hypernav-2022-11-03.sty)	1040
9	Rollback	1041
9.1	Rollback v4.54 (glossaries-2024-04-03.sty)	1041

1 Introduction

This is the documented code for the `glossaries` package. This bundle comes with the following documentation:

`glossariesbegin.pdf` If you are a complete beginner, start with “The glossaries package: a guide for beginners”.

`glossary2glossaries.pdf` If you are moving over from the obsolete `glossary` package, read “Upgrading from the `glossary` package to the `glossaries` package”.

`glossaries-user.pdf` For the main user guide, read “`glossaries.sty` v4.55: L^AT_EX₂ ϵ Package to Assist Generating Glossaries”.

`mfirstuc-manual.pdf` The commands provided by the `mfirstuc` package are briefly described in “`mfirstuc.sty`: uppercasing first letter”.

`glossaries-code.pdf` This document is for advanced users wishing to know more about the inner workings of the `glossaries` package.

`INSTALL` Installation instructions.

`CHANGES` Change log.

README.md Package summary.

The user level commands described in the user manual (glossaries-user.pdf) may be considered “future-proof”. Even if they become deprecated, they should still work for old documents (although they may not work in a document that also contains new commands introduced since the old commands were deprecated, and you may need to specify a compatibility mode).

The internal commands in *this* document that aren’t documented in the *user manual* should not be considered future-proof and are liable to change. If you want a new user level command, you can post a feature request at <http://www.dickimaw-books.com/feature-request.html>. If you are a package writer wanting to integrate your package with `glossaries`, it’s better to request a new user level command than to hack these internals.

2 Main Package Code (glossaries.sty)

2.1 Package Definition

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-2021-11-01.sty}
\DeclareRelease{v4.52}{2022-11-03}{glossaries-2022-11-03.sty}
\DeclareRelease{v4.54}{2024-04-03}{glossaries-2024-04-03.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossaries}[2024/11/01 v4.55 (NLCT)]
```

Required packages:

```
\RequirePackage{ifthen}
\RequirePackage{xkeyval}[2006/11/18]
\RequirePackage{mfirstuc}
```

`\glsentencecase` Provided to allow user to switch to `\MFUsentencecase` if preferred. Don’t redefine `\glsmakefirstuc` to `\makefirstuc` as it will result in infinite recursion.

```
\newcommand{\glsentencecase}[1]{\makefirstuc{#1}}
```

```
\ExplSyntaxOn
```

`\glslowercase` Provided to make it easier for user to use \LaTeX 3 lowercase command without switching to `exp3` syntax. For example, to redefine `\acronymfont` to automatically convert to lowercase.

```
\newcommand{\glslowercase}[1]{\text_lowercase:n { #1 } }
```

`\glsuppercase` Note that this isn’t using `\mfirstucMakeUppercase`, which will be defined to use the robust `\MakeUppercase` if an old version of `mfirstuc` is installed.

```
\newcommand{\glsuppercase}[1]{\text_uppercase:n { #1 } }
```

Check if we have `mfirstuc v2.08+`. In which case, don't redefine `\mfirstucMakeUppercase`. Since `\MFUsentencecase` was new in v2.08, the simplest check is to test for the existence of that command.

```
\ifdef\MFUsentencecase
{%
```

Automatically identify exclusions, blockers and mappings.

```
\glsmfuexcl
```

```
\newcommand{\glsmfuexcl}[1]{\MFUexcl{#1}}
```

```
\glsmfublocker
```

```
\newcommand{\glsmfublocker}[1]{\MFUblocker{#1}}
```

```
\glsmfuaddmap
```

```
\newcommand{\glsmfuaddmap}[2]{\MFUaddmap{#1}{#2}}
```

```
}
{
```

The `textcase` package is now deprecated, so only load it with old versions of `mfirstuc`. (From 2022, `textcase` simply defines `\MakeTextUppercase` to `\MakeUppercase`.)

```
\RequirePackage{textcase}
```

Provide `\MFUsentencecase` for use where expandable contexts are required.

```
\MFUsentencecase
```

```
\providecommand{\MFUsentencecase}[1]{\text_titlecase_first:n { #1 } }
```

Provide support for exclusions with `\MFUsentencecase`.

```
\glsmfuexcl
```

```
\providecommand{\glsmfuexcl}[1]{
\text_titlecase_exclude_arg_t1 {#1}
{
\text_titlecase_exclude_arg_t1 {#1}
}
}
```

```
\mfirstucMakeUppercase
```

We have an old version of `mfirstuc` that is still using this command in the definition of `\makefirstuc`, in which case, continue to use `\MakeTextUppercase` as in previous versions, in case there is also an old version of `textcase` installed. However, note that the all-caps commands like `\GLS` now use `\glssupercase` instead.

```
\renewcommand*{\mfirstucMakeUppercase}{\MakeTextUppercase}
```

Just treat blockers and mappings as exclusions.

```
\glsmfublocker
```

```
\newcommand{\glsmfublocker}[1]{\glsmfuexcl{#1}}
```

```

\glsmfuaddmap
    \newcommand{\glsmfuaddmap}[2]{\glsmfuexcl{#1}\glsmfublocker{#2}}
}
\ExplSyntaxOff
\RequirePackage{xfor}

```

Need to use `\new@ifnextchar` instead of `\@ifnextchar` in commands that have a final optional argument (such as `\gls`) so require `amsgen`. Thanks to Morten Høgholm for suggesting this. (This has replaced using the `xspace` package.)

```
\RequirePackage{amsgen}
```

As from v3.0, now loading `etoolbox` (this is now redundant as `datatool`-base loads `etoolbox`):

```
\RequirePackage{etoolbox}
```

Check if `doc` has been loaded.

```
\if@gls@docloaded
```

```
\newif\if@gls@docloaded
```

```
\@ifpackageloaded{doc}{%
```

```
{%
```

```
\@gls@docloadedtrue
```

```
}%
```

```
{%
```

```
\@ifclassloaded{nlctdoc}{\@gls@docloadedtrue}{\@gls@docloadedfalse}%
```

```
}
```

```
\if@gls@docloaded
```

`\doc` has been loaded, so some modifications need to be made to ensure both packages can work together. The amount of conflict has been reduced as from v4.11 and no longer involves patching internal commands.

`\PrintChanges` needs to use `doc`'s version of `theglossary`, so save that.

```
\glsorg@theglossary
```

```
\let\glsorg@theglossary\theglossary
```

```
\glsorg@endtheglossary
```

```
\let\glsorg@endtheglossary\endtheglossary
```

`\PrintChanges` Now redefine `\PrintChanges` so that it uses the original `theglossary` environment.

```
\let\glsorg@PrintChanges\PrintChanges
```

```
\renewcommand{\PrintChanges}{%
```

```
\begingroup
```

```
\let\theglossary\glsorg@theglossary
```

```
\let\endtheglossary\glsorg@endtheglossary
```

```
\glsorg@PrintChanges
```

```
\endgroup
```

```
}
```

End of doc stuff.

\fi

2.2 Package Options

`debug` Switch on debug mode. This will also cancel the `nowarn` option. This is now a choice key.

```
\newif\if@gldebug
\define@choicekey{glossaries.sty}{debug}{\gldebug@val\gldebug@nr}%
{true,false,showtargets,showaccsupp}[true]{%
\ifcase\gldebug@nr\relax
% debug=true
\@gldebugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\let\glshowtarget\@gobble
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\or
% debug=false
\@gldebugfalse
\let\glshowtarget\@gobble
\let\glshowaccsupp\@gobblethree
\PackageInfo{glossaries}{debug mode OFF}%
\or
% debug=showtargets
\@gldebugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\glshowtarget}{\@glshowtarget}%
\or
% debug=showaccsupp
\@gldebugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\glshowaccsupp}{\glshowaccsupp}%
```

```

    \fi
  }

```

`\glsshowtarget` If `debug=showtargets`, show the hyperlink target name in the margin.

```

\newcommand*\glsshowtarget[1]{%
  \ifmmode
    \glsshowtargetinner{#1}%
  \else
    \ifinner
      \glsshowtargetinner{#1}%
    \else
      \glsshowtargetouter{#1}%
    \fi
  \fi
}

```

`\glsshowtargetfonttext` Text-block command that checks for math-mode.

```

\newcommand*\glsshowtargetfonttext[1]{%
  \ifmmode \nfss@text{\glsshowtargetfont #1}\else {\glsshowtargetfont #1}\fi
}

```

`\glsshowtargetinner` Grouping no longer required as new `\@@glsshowtarget` adds scoping but retained here in case any existing documents are using

```

\newcommand*\glsshowtargetinner[1]{\glsshowtargetfonttext{[#1]}}

```

`\glsshowtargetouter`

```

\newcommand*\glsshowtargetouter[1]{%
  \glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}

```

`\glsshowtargetsymbol`

```

\newcommand*\glsshowtargetsymbol{{\tiny$\triangleright$}}

```

`\glsshowtargetfont`

```

\newcommand*\glsshowtargetfont{\ttfamily\footnotesize}

```

`\@glsshowtarget` `debug=showtargets` will redefine this.

```

\newcommand*\@glsshowtarget[1]{%

```

`\glsdoshowtarget` Make it easier to customise.

```

\newcommand*\glsdoshowtarget[2]{\@glsshowtarget{#1}#2}

```

`\@@glsshowtarget` Need to detokenize the label in the event that it contains awkward characters like underscores.

```

\newrobustcmd*\@@glsshowtarget[1]{%
  \begingroup
  \protected@edef\@gls@tmp{#1}%
  \@onelevel@sanitize\@gls@tmp
  \expandafter\glsshowtarget\expandafter{\@gls@tmp}%
  \endgroup
}

```


`\@glsshowaccsupp debug=showaccsupp` will redefine this.

```
\newcommand*{\@glsshowaccsupp}[3]{}
```

`\glsshowaccsupp` Just use `\@@glsshowtarget` since it basically needs to do the same thing.

```
\newrobustcmd*{\glsshowaccsupp}[3]{%
  \ifstrempy{#1}%
  {\@@glsshowtarget{/#2 (#3)}}%
  {\@@glsshowtarget{/#2 (#3) [#1]}}%
}
```

Determine what to do if the `see` key is used before `\makeglossaries`. The default is to produce an error.

`\@gls@see@noindex`

```
\newcommand*{\@gls@see@noindex}{%
  \PackageError{glossaries}%
  {'\gls@xr@key' key may only be used after \string\makeglossaries\space
  or \string\makenoidxglossaries\space (or move
  \string\newglossaryentry\space
  definitions into the preamble)}%
  {You must use \string\makeglossaries\space
  or \string\makenoidxglossaries\space before defining
  any entries that have a '\gls@xr@key' key. It may
  be that the 'see' key has been written to the .glsdefs
  file from the previous run, in which case you need to
  move your definitions
  to the preamble if you don't want to use
  \string\makeglossaries\space
  or \string\makenoidxglossaries}%
}
```

`seenoindex`

```
\define@choicekey{glossaries.sty}{seenoindex}%
[\gls@seenoindex@val\gls@seenoindex@nr]{error,warn,ignore}{%
  \ifcase\gls@seenoindex@nr
    \renewcommand*{\@gls@see@noindex}{%
      \PackageError{glossaries}%
      {'\gls@xr@key' key may only be used after \string\makeglossaries\space
      or \string\makenoidxglossaries}%
      {You must use \string\makeglossaries\space
      or \string\makenoidxglossaries\space before defining
      any entries that have a '\gls@xr@key' key}%
    }%
  \or
    \renewcommand*{\@gls@see@noindex}{%
      \GlossariesWarning{'\gls@xr@key' key ignored}%
    }%
  \or
    \renewcommand*{\@gls@see@noindex}{}%
```

```

\fi
}

```

toc The toc package option will add the glossaries to the table of contents. This is a boolean key, if the value is omitted it is taken to be true.

```
\define@boolkey{glossaries.sty}[gls]{toc}[true]{}
```

numberline The numberline package option adds `\numberline` to `\addcontentsline`. Note that this option only has an effect if used in with `toc=true`.

```
\define@boolkey{glossaries.sty}[gls]{numberline}[true]{}
```

\@@glossarysec The sectional unit used to start the glossary is stored in `\@@glossarysec`. If chapters are defined, this is initialised to `chapter`, otherwise it is initialised to `section`.

```

\ifcsundef{chapter}%
  {\newcommand*\@@glossarysec{section}}%
  {\newcommand*\@@glossarysec{chapter}}

```

section The section key can be used to set the sectional unit. If no unit is specified, use `section` as the default. The starred form of the named sectional unit will be used. If you want some other way to start the glossary section (e.g. a numbered section) you will have to redefined `\glossarysection`.

```

\define@choickey{glossaries.sty}{section}{part,chapter,section,%
subsection,subsubsection,paragraph,subparagraph}[section]{%
  \renewcommand*\@@glossarysec{#1}}

```

Determine whether or not to use numbered sections.

\@@glossarysecstar

```
\newcommand*\@@glossarysecstar{*}
```

\@@glossaryseclabel

```
\newcommand*\@@glossaryseclabel{}
```

\glsautoprefix Prefix to add before label if automatically generated:

```
\newcommand*\glsautoprefix{}
```

numberedsection

```

\define@choickey{glossaries.sty}{numberedsection}%
  [\gls@numberedsection@val\gls@numberedsection@nr]{%
false,nolabel,autolabel,nameref}[nolabel]{%
  \ifcase\gls@numberedsection@nr\relax
    \renewcommand*\@@glossarysecstar{*}%
    \renewcommand*\@@glossaryseclabel{}}%
  \or
    \renewcommand*\@@glossarysecstar{}%
    \renewcommand*\@@glossaryseclabel{}%
  \or

```

```

\renewcommand*\@@glossarysecstar}{}%
\renewcommand*\@@glossaryseclabel}{%
\label{\glsautoprefix\@glo@type}}%
\or
\renewcommand*\@@glossarysecstar}{*}%
\renewcommand*\@@glossaryseclabel}{%
\protected@edef\@currentlabelname{\glossarytoctitle}%
\label{\glsautoprefix\@glo@type}}%
\fi
}

```

The default glossary style is stored in `\@glossary@default@style`. This is initialised to `list`. (The `list` style is defined in the accompanying `glossary-list` package described in [subsection 2.19](#).) Note that the `list` style is incompatible with `classicthesis` so change the default to `index` if that package has been loaded.

```

\@glossary@default@style
\@ifpackageloaded{classicthesis}
{\newcommand*\@glossary@default@style}{index}}
{\newcommand*\@glossary@default@style}{list}}

```

`style` The default glossary style can be changed using the `style` package option. The value can be the name of any defined glossary style. The glossary style is set at the beginning of the document, so you can still use the `style` key to set a style that is defined in another package. This package comes with some predefined styles that are defined in [subsection 2.19](#). This now uses `\def` instead of `\renewcommand` as `\@glossary@default@style` may have been set to `\relax`.

```

\define@key{glossaries.sty}{style}{%
\def\@glossary@default@style{#1}%
}

```

Each `\DeclareOptionX` needs a corresponding `\DeclareOption` so that it can be passed as a document class option, so define a command that will implement both.

```

\@gls@declareoption
\newcommand*\@gls@declareoption}[2]{%
\DeclareOptionX{#1}{#2}%
\DeclareOption{#1}{#2}%
}

```

Each entry within a given glossary will have an associated number list. By default, this refers to the page numbers on which that entry has been used, but it can also refer to any counter used in the document (such as the section or equation counters). The default number list format displays the number list “as is”:

```

\glossaryentrynumbers
\newcommand*\glossaryentrynumbers}[1]{#1\gls@save@numberlist{#1}}

```

`nonumberlist` Note that the entire number list for a given entry will be passed to `\glossaryentrynumbers` so any font changes will also be applied to the delimiters. The `nonumberlist` package option suppresses the number lists (this simply redefines `\glossaryentrynumbers` to ignore its argument).

```
\gls@declareoption{nonumberlist}{%
  \renewcommand*\glossaryentrynumbers}[1]{\gls@save@numberlist{#1}}%
}
```

`savenumberlist` Provide means to store the number list for entries.

```
\define@boolkey{glossaries.sty}[gls]{savenumberlist}[true]{%
  \glssavenumberlistfalse}
```

`\glo@seeautonumberlist`

```
\newcommand*\glo@seeautonumberlist{}
```

`seeautonumberlist` Automatically activates number list for entries containing the see key.

```
\gls@declareoption{seeautonumberlist}{%
  \renewcommand*\glo@seeautonumberlist{%
    \def\glo@prefix{\glsnextpages}%
  }%
}
```

`esclocations` When using `makeindex` or `xindy`, the locations may need to be adjusted to ensure they're in a format that's allowed by the indexing application. This involves a bit of hackery and isn't needed if the locations are all guaranteed to be in the correct form (or if the user is prepared to post-process the glossary file before calling the relevant indexing application, which `makeglossaries` can do) so `esclocations=false` will switch off this mechanism allowing for a faster and more stable approach. As from v4.50, the default is now false.

```
\define@boolkey{glossaries.sty}[gls]{esclocations}[true]{%
  \glseesclocationsfalse}
```

`\gls@loadlong`

```
\newcommand*\gls@loadlong{\RequirePackage{glossary-long}}
```

`nolong` This option prevents `glossary-long` from being loaded. This means that the glossary styles that use the `longtable` environment will not be available. This option is provided to reduce overhead caused by loading unrequired packages.

```
\gls@declareoption{nolong}{\renewcommand*\gls@loadlong{}}
```

`\gls@loadsuper` The `glossary-super` package isn't loaded if `supertabular` isn't installed.

```
\IfFileExists{supertabular.sty}{%
  \newcommand*\gls@loadsuper{\RequirePackage{glossary-super}}}%
\newcommand*\gls@loadsuper{}}
```

Don't load super styles if `xtab` has been loaded as it causes a conflict.

```
\ifpackageloaded{xtab}{\renewcommand*\gls@loadsuper{}}{}
```

`nosuper` This option prevents `glossary-super` from being loaded. This means that the glossary styles that use the `supertabular` environment will not be available. This option is provided to reduce overhead caused by loading unrequired packages.

```
\@gls@declareoption{nosuper}{\renewcommand*{\@gls@loadsuper}{}}
```

`\@gls@loadlist`

```
\newcommand*{\@gls@loadlist}{\RequirePackage{glossary-list}}
```

`nolist` This option prevents `glossary-list` from being loaded (to reduce overheads if required). Naturally, the styles defined in `glossary-list` will not be available if this option is used. If the style is still set to `list`, the default must be set to `\relax`.

```
\@gls@declareoption{nolist}{%
\renewcommand*{\@gls@loadlist}{%
\ifdefstring{\@glossary@default@style}{list}%
{\let\@glossary@default@style\relax}%
}%
}%
}
```

`\@gls@loadtree`

```
\newcommand*{\@gls@loadtree}{\RequirePackage{glossary-tree}}
```

`notree` This option prevents `glossary-tree` from being loaded (to reduce overheads if required). Naturally, the styles defined in `glossary-tree` will not be available if this option is used.

```
\@gls@declareoption{notree}{\renewcommand*{\@gls@loadtree}{}}
```

`nostyles` Provide an option to suppress all the predefined styles (in the event that the user has custom styles that are not dependent on the predefined styles).

```
\@gls@declareoption{nostyles}{%
\renewcommand*{\@gls@loadlong}{}%
\renewcommand*{\@gls@loadsuper}{}%
\renewcommand*{\@gls@loadlist}{}%
\renewcommand*{\@gls@loadtree}{}%
\let\@glossary@default@style\relax
}
```

`\glspostdescription` The description terminator is given by `\glspostdescription` (except for the 3 and 4 column styles). This is a full stop by default. The spacefactor is adjusted in case the description ends with an upper case letter. (Patch provided by Michael Pock.)

```
\newcommand*{\glspostdescription}{%
\ifglsnopostdot\else.\spacefactor\sfcode`. \fi
}
```

`nopostdot` Boolean option to suppress post description dot

```
\define@boolkey{glossaries.sty}[gls]{nopostdot}[true]{%
\glsnopostdotfalse}
```

`nogroupskip` Boolean option to suppress vertical space between groups in the pre-defined styles.

```
\define@boolkey{glossaries.sty}[gls]{nogroupskip}[true]{}
\glsnogroupskipfalse
```

`ucmark` Boolean option to determine whether or not to use upper case in definition of `\glsglossarymark`

```
\define@boolkey{glossaries.sty}[gls]{ucmark}[true]{}

\@ifclassloaded{memoir}
{%
  \glsucmarktrue
}%
{%
  \glsucmarkfalse
}
```

`glossaryentry` If the `entrycounter` package option has been used, define a counter to number each level 0 entry. This is now defined by an internal command for consistency.

`\define@glossaryentrycounter`

```
\newcommand*{\@gls@define@glossaryentrycounter}{%
  \ifglentrycounter
  Define the glossaryentry counter if it doesn't already exist.
  \ifundef\c@glossaryentry
  {%
    \ifx\@gls@counterwithin\@empty
    \newcounter{glossaryentry}%
    \else
    \newcounter{glossaryentry}[\@gls@counterwithin]%
    \fi
    \def\theHglossaryentry{\currentglossary.\theglossaryentry}%
  }%
  {}%
\fi
}
```

`entrycounter` Defines a counter that can be used in the standard glossary styles to number each (main) entry. If true, this will define a counter called `glossaryentry`.

```
\define@boolkey{glossaries.sty}[gls]{entrycounter}[true]{}
\glsentrycounterfalse
```

`counterwithin` This option can be used to set a parent counter for `glossaryentry`. This option automatically sets `entrycounter=true`.

```
\define@key{glossaries.sty}{counterwithin}{%
  \renewcommand*{\@gls@counterwithin}{#1}%
  \glsentrycountertrue
  \@gls@define@glossaryentrycounter
}
```

`\@gls@counterwithin` The default value is no parent counter:

```
\newcommand*\@gls@counterwithin{}
```

`glossarysubentry` If the `subentrycounter` package option has been used, define a counter to number each level 1 entry. This is now defined by an internal command for consistency.

`\define@glossarysubentrycounter`

```
\newcommand*\@gls@define@glossarysubentrycounter}{%
```

Check if counter already defined.

```
\ifundef\c@glossarysubentry
{%
  \ifglssubentrycounter
  \ifglsubentrycounter
    \newcounter{glossarysubentry}[glossaryentry]%
  \else
    \newcounter{glossarysubentry}%
  \fi
}
```

As with `\theHglossaryentry`, this starts with `\currentglossary.` to help avoid duplicate hyper targets.

```
\def\theHglossarysubentry{\currentglossary.\currentglssubentry.\theglossarysubentry}%
\fi
}%
{}%
}
```

`subentrycounter` Define a counter that can be used in the standard glossary styles to number each level 1 entry. If true, this will define a counter called `glossarysubentry`.

```
\define@boolkey{glossaries.sty}[gls]{subentrycounter}[true]{%
\glssubentrycounterfalse}
```

`\glsindexingsetting` Provide a way of finding out what the current indexing setting is. This won't pick up the `noidx` option until `\makenoidxglossaries` is encountered.

```
\newcommand*\glsindexingsetting{\ifglxsindy xindy\else makeindex\fi}
```

`\@glo@default@sorttype` Initialise default sort for `\printnoidxglossary`

```
\newcommand*\@glo@default@sorttype}{standard}
```

`sort` Define the sort method: `sort=standard` (default), `sort=def` (order of definition) or `sort=use` (order of use). If no indexing required, use `sort=none` or `sort=clear`.

```
\define@choicekey{glossaries.sty}{sort}{standard,def,use,none,clear}{%
\renewcommand*\@glo@default@sorttype}{#1}%
\csname @gls@setupsort@#1\endcsname
}
```

`\glsprestandardsort`

```
\glsprestandardsort{<sort cs>}{<type>}{<label>}
```

Allow user to hook into sort mechanism. The first argument $\langle sort\ cs \rangle$ is the temporary control sequence containing the sort value before it has been sanitized and had `makeindex/xindy` special characters escaped.

```
\newcommand*\glsprestandardsort}[3]{%
  \glsdosanitizesort
}
```

`\glo@check@sortallowed`

```
\newcommand*\glo@check@sortallowed}[1]{}
```

`\gls@setupsort@standard` Set up the macros for default sorting.

```
\newcommand*\gls@setupsort@standard}{%
```

Store entry information when it's defined.

```
\def\do@glo@storeentry{\glo@storeentry}%
```

No count register required for standard sort.

```
\def\@gls@defsortcount##1{}%
```

Sort according to sort key (`\glo@sort`) if provided otherwise sort according to the entry's name (`\glo@name`). (First argument glossary type, second argument entry label.)

```
\def\@gls@defsort##1##2{%
```

```
\ifx\@glo@sort\glsdefaultsort
```

```
\let\@glo@sort\glo@name
```

```
\fi
```

```
\let\glsdosanitizesort\@gls@sanitizesort
```

```
\glsprestandardsort{\@glo@sort}{##1}{##2}%
```

```
\expandafter\protected@xdef\csname glo@##2@sort\endcsname{\@glo@sort}%
```

```
}%
```

Don't need to do anything when the entry is used.

```
\def\@gls@setsort##1{}%
```

This sort option is allowed with `\makeglossaries` and `\makenoidxglossaries`.

```
\let\@glo@check@sortallowed@gobble
```

```
}
```

Set standard sort as the default:

```
\@gls@setupsort@standard
```

`\glsortnumberfmt` Format the number used as the sort key by `sort=def` and `sort=use`. Defaults to six digit numbering.

```
\newcommand*\glsortnumberfmt[1]{%
```

```
\ifnum#1<100000 0\fi
```

```
\ifnum#1<10000 0\fi
```

```
\ifnum#1<1000 0\fi
```

```
\ifnum#1<100 0\fi
```

```
\ifnum#1<10 0\fi
```

```
\number#1%
```

```
}
```


`\@gls@setupsort@def` Set up the macros for order of definition sorting.

```

\newcommand*{\@gls@setupsort@def}{%
Store entry information when it's defined.
\def\do@glo@storeentry{\@glo@storeentry}%
Defined count register associated with the glossary.
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
Increment count register associated with the glossary and use as the sort key.
\def\@gls@defsort##1##2{%
It may be that the sort order was changed after the glossary was defined, so
check if the count register has been defined.
\ifcsundef{glossary@##1@sortcount}%
{\@gls@defsortcount{##1}}%
{}%
\expandafter\global\expandafter
\advance\csname glossary@##1@sortcount\endcsname by 1\relax
\expandafter\protected\def\csname glo@##2@sort\endcsname{%
\expandafter\glsortnumberfmt
{\csname glossary@##1@sortcount\endcsname}}%
}%
Don't need to do anything when the entry is used.
\def\@gls@setsort##1{%
This sort option is allowed with \makeglossaries and \makenoidxglossaries.
\let\@glo@check@sortallowed\@gobble
}

```

`\@gls@setupsort@use` Set up the macros for order of use sorting.

```

\newcommand*{\@gls@setupsort@use}{%
Don't store entry information when it's defined.
\let\do@glo@storeentry\@gobble
Defined count register associated with the glossary.
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
Initialise the sort key to empty.
\def\@gls@defsort##1##2{%
\expandafter\gdef\csname glo@##2@sort\endcsname{}%
}%
If the sort key hasn't been set, increment the counter associated with the glos-
sary and set the sort key.
\def\@gls@setsort##1{%

```

Get the parent, if one exists

```
\protected@edef\@glo@parent{\csname glo@##1@parent\endcsname}%
```

Set the information for the parent entry if not already done.

```
\ifx\@glo@parent\@empty  
\else  
\expandafter\@gls@setsort\expandafter{\@glo@parent}%  
\fi
```

Set index information for this entry

```
\protected@edef\@glo@type{\csname glo@##1@type\endcsname}%  
\protected@edef\@gls@tmp{\csname glo@##1@sort\endcsname}%  
\ifx\@gls@tmp\@empty  
\expandafter\global\expandafter  
\advance\csname glossary@\@glo@type @sortcount\endcsname by 1\relax  
\expandafter\protected@xdef\csname glo@##1@sort\endcsname{%  
\expandafter\gls@sortnumberfmt  
{\csname glossary@\@glo@type @sortcount\endcsname}}%  
\@glo@storeentry{##1}%  
\fi  
}%
```

This sort option is allowed with `\makeglossaries` and `\makenoidxglossaries`.

```
\let\@glo@check@sortallowed\@gobble  
}
```

`\@gls@setupsort@none` Slightly improves efficiency in the event that no indexing is required.

```
\newcommand*\@gls@setupsort@none{%  
\def\glsindexingsetting{none}%
```

Don't store entry index information.

```
\def\do@glo@storeentry##1{%
```

No count register required for standard sort.

```
\def\@gls@defsortcount##1{%
```

Don't modify sort value.

```
\def\@gls@defsort##1##2{%  
\expandafter\global\expandafter\let\csname glo@##2@sort\endcsname\@glo@sort  
}%
```

Don't need to do anything when the entry is used.

```
\def\@gls@setsort##1{%
```

This sort option isn't allowed with `\makeglossaries` or `\makenoidxglossaries`.

```
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}  
{Option sort=none not allowed with \string##1}%  
{(Use sort=def instead)}}%  
}
```

`\@gls@setupsort@clear` Like `sort=none` but sets the sort value to empty.

```
\newcommand*\@gls@setupsort@clear{%  
\def\glsindexingsetting{none}%
```

Don't store entry index information.

```
\def\do@glo@storeentry##1{%
```

No count register required for standard sort.

```
\def\@gls@defsortcount##1{%
```

Clear sort value.

```
\def\@gls@defsort##1##2{\csgdef{glo@##2@sort}{}}%
```

Don't need to do anything when the entry is used.

```
\def\@gls@setsort##1{%
```

This sort option isn't allowed with `\makeglossaries` or `\makenoidxglossaries`.

```
\renewcommand\@glo@check@sort@allowed[1]{\PackageError{glossaries}
{Option sort=clear not allowed with \string##1}%
{(Use sort=def instead)}}%
}
```

`\glsdefmain` Define the main glossary. This will be the first glossary to be displayed when using `\printglossaries`. The default extensions conflict if used with `doc`, so provide different extensions if `doc` loaded. (If these extensions are inappropriate, use `nomain` and manually define the main glossary with the desired extensions.)

```
\newcommand*\glsdefmain{%
\if@gls@docloaded
\newglossary[glg2]{main}{gls2}{glo2}{\glossaryname}%
\else
\newglossary{main}{gls}{glo}{\glossaryname}%
\fi
```

Define hook to set the toc title when translator is in use.

```
\newcommand*\gls@tr@set@main@toctitle{%
\translatelet{\glossarytoctitle}{Glossary}%
}%
}
```

Keep track of the default glossary. This is initialised to the main glossary, but can be changed if for some reason you want to make a secondary glossary the main glossary. This affects any commands that can optionally take a glossary name as an argument (or as the value of the `type` key in a key-value list). This was mainly done so that `\loadglsentries` can temporarily change `\glsdefaulttype` while it loads a file containing new glossary entries (see [subsection 2.10](#)).

`\glsdefaulttype`

```
\newcommand*\glsdefaulttype{main}
```

Keep track of which glossary the acronyms are in. This is initialised to `\glsdefaulttype`, but is changed by the acronym package option.

`\acronymtype`

```
\newcommand*\acronymtype{\glsdefaulttype}
```

`nomain` The `nomain` option suppress the creation of the main glossary.

```
\@gls@declareoption{nomain}{%  
  \let\glsdefaulttype\relax  
  \renewcommand*\glsdefmain}{}%  
}
```

`acronym` The `acronym` option sets an associated conditional which is used in [subsection 2.17](#) to determine whether or not to define a separate glossary for acronyms.

```
\define@boolkey{glossaries.sty}[gls]{acronym}[true]{%  
  \ifglsacronym  
    \renewcommand{\@gls@do@acronymsdef}{%  
      \DeclareAcronymList{acronym}%  
      \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%  
      \renewcommand*\acronymtype{acronym}%
```

Define hook to set the toc title when translator is in use.

```
\newcommand*\gls@tr@set@acronym@toctitle}{%  
  \translatelet{\glossarytoctitle}{Acronyms}%  
}%  
}%  
\else  
  \let\@gls@do@acronymsdef\relax  
\fi  
}
```

`\printacronyms` Define `\printacronyms` at the start of the document if `acronym` is set and `\printacronyms` hasn't already been defined.

```
\AtBeginDocument{%  
  \ifglsacronym  
    \providecommand*\printacronyms[1][1]{%  
      \printglossary[type=\acronymtype,#1]%  
    }  
  \fi  
}
```

`\@gls@do@acronymsdef` Set default value

```
\newcommand*\@gls@do@acronymsdef{}
```

`acronyms` Provide a synonym for `acronym=true` that can be passed via the document class options.

```
\@gls@declareoption{acronyms}{%  
  \glsacronymtrue  
  
  \def\@gls@do@acronymsdef{%  
    \DeclareAcronymList{acronym}%  
    \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%  
    \renewcommand*\acronymtype{acronym}%
```

Define hook to set the toc title when translator is in use.

```
\newcommand*\gls@tr@set@acronym@toctitle}{%  
  \translatelet{\glossarytoctitle}{Acronyms}%
```

```

    }%
  }%
}

```

`\@glsacronymlists` Comma-separated list of glossary labels indicating which glossaries contain acronyms.

```
\newcommand*{\@glsacronymlists}{}
```

`\@addtoacronymlists`

```

\newcommand*{\@addtoacronymlists}[1]{%
  \ifx\@glsacronymlists\@empty
    \protected@xdef\@glsacronymlists{#1}%
  \else
    \protected@xdef\@glsacronymlists{\@glsacronymlists,#1}%
  \fi
}

```

`\DeclareAcronymList` Identifies the named glossary as a list of acronyms and adds to the list. (Doesn't check if the glossary exists, but checks if label already in list.)

```

\newcommand*{\DeclareAcronymList}[1]{%
  \glsIfListOfAcronyms{#1}{\@addtoacronymlists{#1}}%
}

```

```
\glsIfListOfAcronyms{<label>}{<true part>}{<false part>}
```

`\glsIfListOfAcronyms`

Determines if the glossary with the given label has been identified as being a list of acronyms.

```

\newcommand{\glsIfListOfAcronyms}[1]{%
  \protected@edef\@do@gls@islistofacronyms{%
    \noexpand\@gls@islistofacronyms{#1}{\@glsacronymlists}}%
  \@do@gls@islistofacronyms
}

```

Internal command requires label and list to be expanded:

```

\newcommand{\@gls@islistofacronyms}[4]{%
  \def\gls@islistofacronyms##1,#1,##2\end@gls@islistofacronyms{%
    \def\@gls@before{##1}\def\@gls@after{##2}}%
  \gls@islistofacronyms,#2,#1,\@nil\end@gls@islistofacronyms
  \ifx\@gls@after\@nnil

```

Not found

```

  #4%
  \else

```

Found

```

  #3%
  \fi
}

```

```

\if@glsisacronymlist Convenient boolean.
    \newif\if@glsisacronymlist

\gls@checkisacronymlist Sets the above boolean if argument is a label representing a list of acronyms.
    \newcommand*\gls@checkisacronymlist}[1]{%
        \glsIfListOfAcronyms{#1}%
        {\@glsisacronymlisttrue}{\@glsisacronymlistfalse}%
    }

\SetAcronymLists Sets the “list of acronyms” list. Argument must be a comma-separated list of
glossary labels. (Doesn’t check at this point if the glossaries exists.)
    \newcommand*\SetAcronymLists}[1]{%
        \renewcommand*\@glsacronymlists}{#1}%
    }

acronymlists
    \define@key{glossaries.sty}{acronymlists}{%
        \DeclareAcronymList{#1}%
    }

    The default counter associated with the numbers in the glossary is stored in
    \glscounter. This is initialised to the page counter. This is used as the default
    counter when a new glossary is defined, unless a different counter is specified in
    the optional argument to \newglossary (see subsection 2.6).

\glscounter
    \newcommand{\glscounter}{page}

counter The counter option changes the default counter. (This just redefines \glscounter.)
    \define@key{glossaries.sty}{counter}{%
        \renewcommand*\glscounter}{#1}%
    }

\@gls@nohyperlist
    \newcommand*\@gls@nohyperlist}{

\GlsDeclareNoHyperList
    \newcommand*\GlsDeclareNoHyperList}[1]{%
        \ifdefempty\@gls@nohyperlist
        {%
            \renewcommand*\@gls@nohyperlist}{#1}%
        }%
        {%
            \appto\@gls@nohyperlist{,#1}%
        }%
    }

```

nohypertypes

```
\define@key{glossaries.sty}{nohypertypes}{%  
  \GlsDeclareNoHyperList{#1}%  
}
```

`\GlossariesWarning` Prints a warning message.

```
\newcommand*{\GlossariesWarning}[1]{%  
  \PackageWarning{glossaries}{#1}%  
}
```

`\GlossariesWarningNoLine` Prints a warning message without the line number.

```
\newcommand*{\GlossariesWarningNoLine}[1]{%  
  \PackageWarningNoLine{glossaries}{#1}%  
}
```

`\glosortentrieswarning` Warn user that sorting may take a long time. This is actually an informational message rather than a warning so just use `\typeout`.

```
\newcommand{\glosortentrieswarning}{%  
  \typeout{Using TeX to sort glossary entries---this may  
  take a while}%  
}
```

`nowarn` Define package option to suppress warnings

```
\@gls@declareoption{nowarn}{%  
  \if@gls@debug  
    \GlossariesWarning{Warnings can't be suppressed in debug mode}%  
  \else  
    \renewcommand*{\GlossariesWarning}[1]{}%  
    \renewcommand*{\GlossariesWarningNoLine}[1]{}%  
    \renewcommand*{\glosortentrieswarning}{}%  
    \renewcommand*{\@gls@missinglang@warn}[2]{}%  
  \fi  
}
```

`\@gls@missinglang@warn` Missing language warning.

```
\newcommand*{\@gls@missinglang@warn}[2]{%  
  \PackageWarningNoLine{glossaries}%  
  {No language module detected for '#1'.\MessageBreak  
  Language modules need to be installed separately.\MessageBreak  
  Please check on CTAN for a bundle called\MessageBreak  
  'glossaries-#2' or similar}%  
}
```

`nolangwarn` Suppress warning if language support not found.

```
\@gls@declareoption{nolangwarn}{%  
  \renewcommand*{\@gls@missinglang@warn}[2]{}%  
}
```

`\@gls@warnonglossdefined` Issue a warning if overriding `\printglossary`

```

\newcommand*\@gls@warnonglossdefined}{%
  \GlossariesWarning{Overriding \string\printglossary}%
}

```

`\@gls@warnontheGLOSSdefined` Issue a warning if overriding `theglossary`

```

\newcommand*\@gls@warnontheGLOSSdefined}{%
  \GlossariesWarning{Overriding 'theglossary' environment}%
}

```

`noredefwarn` Suppress warning on redefinition of `\printglossary`

```

\@gls@declareoption{noredefwarn}{%
  \renewcommand*\@gls@warnonglossdefined}{}%
  \renewcommand*\@gls@warnontheGLOSSdefined}{}%
}

```

As from version 3.08a, the only information written to the external glossary files are the label and sort values. Therefore, now, the only `sanitize` option that makes sense is the one for the sort key. so the `sanitize` option is now deprecated and there is only a `sanitizesort` option.

`\@gls@sanitizedesc` `\@gls@sanitizedesc` was deprecated in v3.08a and removed in v4.50.

`\glssetexpandfield`

```
\glssetexpandfield{<field>}
```

Sets field to always expand.

```

\newcommand*\glssetexpandfield}[1]{%
  \csdef{gls@assign@#1@field}##1##2{%
    \@gls@expand@field{##1}{#1}{##2}%
  }%
}

```

`\glssetnoexpandfield`

```
\glssetnoexpandfield{<field>}
```

Sets field to never expand.

```

\newcommand*\glssetnoexpandfield}[1]{%
  \csdef{gls@assign@#1@field}##1##2{%
    \@gls@noexpand@field{##1}{#1}{##2}%
  }%
}

```

`\gls@assign@type@field` The type must always be expandable.

```
\glssetexpandfield{type}
```

`\gls@assign@desc@field` The description is not expanded by default:

```
\glssetnoexpandfield{desc}
```



```

\gls@assign@desclplural@field
    \glssetnoexpandfield{desclplural}

\@gls@sanitizename
    \newcommand*{\@gls@sanitizename}{}

\gls@assign@name@field Don't expand name by default.
    \glssetnoexpandfield{name}

\@gls@sanitizesymbol
    \newcommand*{\@gls@sanitizesymbol}{}

\@gls@assign@symbol@field Don't expand symbol by default.
    \glssetnoexpandfield{symbol}

\@gls@assign@symbolplural@field
    \glssetnoexpandfield{symbolplural}

    Sanitizing stuff:

\@gls@sanitizesort
    \newcommand*{\@gls@sanitizesort}{%
        \ifglssanitizesort
            \@gls@sanitizesort
        \else
            \@gls@nosanitizesort
        \fi
    }

\@@gls@sanitizesort
    \newcommand*\@@gls@sanitizesort{%
        \@onelevel@sanitize\@glo@sort
    }

\@@gls@nosanitizesort
    \newcommand*\@@gls@nosanitizesort{}

\@@gls@noidx@sanitizesort Remove braces around first character (if present) before sanitizing.
    \newcommand*\@gls@noidx@sanitizesort{%
        \ifdefvoid\@glo@sort
            {}%
        {%
            \expandafter\@gls@noidx@sanitizesort\@glo@sort\gls@end@sanitizesort
        }%
    }
    \def\@@gls@noidx@sanitizesort#1#2\gls@end@sanitizesort{%
        \def\@glo@sort{#1#2}%
        \@onelevel@sanitize\@glo@sort
    }

```

`\@gls@noidx@nosanitizesort`

```
\newcommand*\@gls@noidx@nosanitizesort}{%
  \ifdefvoid\@glo@sort
  }%
  {%
    \expandafter\@gls@noidx@no@sanitizesort\@glo@sort\gls@end@sanitizesort
  }%
}
\def\@gls@noidx@no@sanitizesort#1#2\gls@end@sanitizesort{%
  \bgroup
  \glsnoidxstripaccents
  \protected@xdef\@glo@sort{#1#2}%
  \egroup
  \let\@glo@sort\@glo@sort
}
```

`\glsnoidxstripaccents` This strips accents by redefining the standard accent commands to just do their argument. (This will be localised since `\glsnoidxstripaccents` is used within a group.) Anything outside this standard set really shouldn't be using `\makenoidxglossaries`. It's much better to use `xindy` or `bib2gls` with the correct language setting.

```
\newcommand*\glsnoidxstripaccents{%
  \let\IeC\@firstofone
  \let\add@accent@\@secondoftwo
  \let\@text@composite@x\@secondoftwo
  \let\@tabacckludge\@secondoftwo
  \expandafter\def\csname \encodingdefault-cmd\endcsname##1##2##3{##3}%
  \expandafter\def\csname OT1-cmd\endcsname##1##2##3{##3}%
  \expandafter\def\csname T1-cmd\endcsname##1##2##3{##3}%
  \expandafter\def\csname PD1-cmd\endcsname##1##2##3{##3}%
  \let'\@firstofone
  \let'\@firstofone
  \let^\@firstofone
  \let"@@firstofone
  \let\u\@firstofone
  \let\t\@firstofone
  \let\d\@firstofone
  \let\r\@firstofone
  \let=\@firstofone
  \let.\@firstofone
  \let~\@firstofone
  \let\v\@firstofone
  \let\H\@firstofone
  \let\c\@firstofone
  \let\b\@firstofone

  \let\a\@secondoftwo
  \def\AE{AE}%
  \def\ae{ae}%
}
```

```

\def\OE{OE}%
\def\oe{oe}%
\def\AA{AA}%
\def\aa{aa}%
\def\L{L}%
\def\l{l}%
\def\O{O}%
\def\o{o}%
\def\SS{SS}%
\def\ss{ss}%
\def\th{th}%

\def\TH{TH}%
\def\dh{dh}%
\def\DH{DH}%
}

```

Need to check if the LaTeX kernel is at least version 2019/10/01 as that changes the way that UTF-8 characters expand.

```

\ifl@t@r\fmtversion{2019/10/01}
{%
\appto\glsnoidxstripaccents{\let\UTFviii@two@octets\UTFviii@two@octets@combine}%
}
{}

```

`\@gls@removedoption`

```

\newcommand{\@gls@removedoption}[1]{%
\PackageError{glossaries}{obsolete package option ‘#1’ has been
removed. Rollback required or use a newer alternative}
{Try \string\usepackage[#1]{glossaries}[=v4.46]}%
}

```

Before defining the sanitize package option, The key-value list for the sanitize value needs to be defined. These are all boolean keys. If they are not given a value, assume true.

```

\define@boolkey[gls]{sanitize}{description}[true]{%
\GlossariesWarning{sanitize={description} package option deprecated}%
\ifgls@sanitize@description
\glssetnoexpandfield{desc}%
\glssetnoexpandfield{descplural}%
\else
\glssetexpandfield{desc}%
\glssetexpandfield{descplural}%
\fi
}

\define@boolkey[gls]{sanitize}{name}[true]{%
\GlossariesWarning{sanitize={name} package option deprecated}%
\ifgls@sanitize@name
\glssetnoexpandfield{name}%

```

```

\else
  \glsssetexpandfield{name}%
\fi
}
\define@boolkey[glS]{sanitize}{symbol}[true]{%
  \GlossariesWarning{sanitize={symbol} package option deprecated}%
  \ifglS@sanitize@symbol
    \glsssetnoexpandfield{symbol}%
    \glsssetnoexpandfield{symbolplural}%
  \else
    \glsssetexpandfield{symbol}%
    \glsssetexpandfield{symbolplural}%
  \fi
}

```

sanitizesort

```

\define@boolkey{glossaries.sty}[glS]{sanitizesort}[true]{%
  \ifglSSsanitizesort
    \glsssetnoexpandfield{sortvalue}%
    \renewcommand*{\@glS@noidx@setsanitizesort}{%
      \glsssanitizesorttrue
      \glsssetnoexpandfield{sortvalue}%
    }%
  \else
    \glsssetexpandfield{sortvalue}%
    \renewcommand*{\@glS@noidx@setsanitizesort}{%
      \glsssanitizesortfalse
      \glsssetexpandfield{sortvalue}%
    }%
  \fi
}

```

Default setting:

```

\glsssanitizesorttrue
\glsssetnoexpandfield{sortvalue}%

```

`\@glS@noidx@setsanitizesort` Default behaviour for `\makenoidxglossaries` is `sanitizesort=false`.

```

\newcommand*{\@glS@noidx@setsanitizesort}{%
  \glsssanitizesortfalse
  \glsssetexpandfield{sortvalue}%
}

```

```

\define@choicekey[glS]{sanitize}{sort}{true,false}[true]{%
  \setbool{glSSsanitizesort}{#1}%
  \ifglSSsanitizesort
    \glsssetnoexpandfield{sortvalue}%
  \else
    \glsssetexpandfield{sortvalue}%
  \fi
  \GlossariesWarning{sanitize={sort} package option

```

```

    deprecated. Use sanitizesort instead}%
}

```

`sanitize`

```

\define@key{glossaries.sty}{sanitize}[description=true,symbol=true,name=true]{%
  \ifthenelse{\equal{#1}{none}}{%
    {%
      \GlossariesWarning{sanitize package option deprecated}%
      \glssetexpandfield{name}%
      \glssetexpandfield{symbol}%
      \glssetexpandfield{symbolplural}%
      \glssetexpandfield{desc}%
      \glssetexpandfield{descplural}%
    }%
  }%
  \setkeys[gls]{sanitize}{#1}%
}%
}

```

`\ifglstranslate` As from version 3.13a, the translator package option is a choice rather than boolean option so now need to define conditional:

```

\newif\ifglstranslate

```

`\@gls@notranslatorhook` `\@gls@notranslatorhook` has been removed.

`\@gls@usetranslator`

```

\newcommand*\@gls@usetranslator{%
  polyglossia tricks \@ifpackageloaded into thinking that babel has been loaded,
  so check for polyglossia as well.
  \@ifpackageloaded{polyglossia}%
  {%
    \let\glsifusetranslator\@secondoftwo
  }%
  {%
    \@ifpackageloaded{babel}%
    {%
      \IfFileExists{translator.sty}%
      {%
        \RequirePackage{translator}%
        \let\glsifusetranslator\@firstoftwo
      }%
    }%
  }%
  {}%
}%
}

```

`\glsifusedtranslatordict` Checks if given translator dictionary has been loaded.

```

\newcommand{\glsifusedtranslatordict}[3]{%
  \glsifusetranslator
  {\ifcsdef{ver@glossaries-dictionary-#1.dict}{#2}{#3}}%
  {#3}%
}

```

`notranslate` Provide a synonym for `translate=false` that can be passed via the document class.

```

\@gls@declareoption{notranslate}{%
  \glstranslatefalse
  \let\@gls@usetranslator\relax
  \let\glsifusetranslator\@secondoftwo
}

```

`translate` Define `translate` option. If false don't set up multi-lingual support.

```

\define@choicekey{glossaries.sty}{translate}{%
  [\gls@translate@val\gls@translate@nr]%
  {true,false,babel}[true]%
  {%
    \ifcase\gls@translate@nr\relax
      \glstranslatetrue
      \renewcommand*\@gls@usetranslator{%
        \@ifpackageloaded{polyglossia}%
        {%
          \let\glsifusetranslator\@secondoftwo
        }%
        {%
          \@ifpackageloaded{babel}%
          {%
            \IfFileExists{translator.sty}%
            {%
              \RequirePackage{translator}%
              \let\glsifusetranslator\@firstoftwo
            }%
            {}%
          }%
          {}%
        }%
      }%
    \or
      \glstranslatefalse
      \let\@gls@usetranslator\relax
      \let\glsifusetranslator\@secondoftwo
    \or
      \glstranslatetrue
      \let\@gls@usetranslator\relax
      \let\glsifusetranslator\@secondoftwo
    \fi
  }
}

```

Set the default value:

```
\glstranslatefalse
\let\glsifusetranslator\@secondoftwo
\@ifpackageloaded{translator}%
{%
  \glstranslatetrue
  \let\glsifusetranslator\@firstoftwo
}%
{%
  \for\gls@thissty:=tracklang,babel,ngerman,polyglossia\do
  {
    \@ifpackageloaded{\gls@thissty}%
    {%
      \glstranslatetrue
      \@endfortrue
    }%
    {}%
  }
}
```

`\@gls@requested@languages`

```
\newcommand{\@gls@requested@languages}{}
```

languages Identify required languages independently of any language packages and switches off automatic loading of translator.

```
\define@key{glossaries.sty}{languages}{%
  \renewcommand{\@gls@requested@languages}{#1}%
  \glstranslatetrue
  \let\@gls@usetranslator\relax
  \let\glsifusetranslator\@secondoftwo
}
```

locales Provide synonym.

```
\define@key{glossaries.sty}{locales}{%
  \renewcommand{\@gls@requested@languages}{#1}%
  \glstranslatetrue
  \let\@gls@usetranslator\relax
  \let\glsifusetranslator\@secondoftwo
}
```

indexonlyfirst Set whether to only index on first use.

```
\define@boolkey{glossaries.sty}[gls]{indexonlyfirst}[true]{}
\glsindexonlyfirstfalse
```

hyperfirst Set whether or not terms should have a hyperlink on first use.

```
\define@boolkey{glossaries.sty}[gls]{hyperfirst}[true]{}
\glshyperfirsttrue
```

`\@gls@setacrstyle` Keep track of whether an acronym style has been set (for the benefit of `\setupglossaries`):

```

\newcommand*{\@gls@setacrstyle}{%

```

`footnote` Set the long form of the acronym in footnote on first use.

```

\define@boolkey{glossaries.sty}[glsacr]{footnote}[true]{%
\ifglsacrfootnote
\@gls@removedoption{footnote}%
\fi
}

```

`description` Allow acronyms to have a description (needs to be set using the `description` key in the optional argument of `\newacronym`).

```

\define@boolkey{glossaries.sty}[glsacr]{description}[true]{%
\ifglsacrdescription
\@gls@removedoption{description}%
\fi
}

```

`smallcaps` Define `\newacronym` to set the short form in small capitals.

```

\define@boolkey{glossaries.sty}[glsacr]{smallcaps}[true]{%
\ifglsacrsmallcaps
\@gls@removedoption{smallcaps}%
\fi
}

```

`smaller` Define `\newacronym` to set the short form using `\smaller` which obviously needs to be defined by loading the appropriate package.

```

\define@boolkey{glossaries.sty}[glsacr]{smaller}[true]{%
\ifglsacrsmaller
\@gls@removedoption{smaller}%
\fi
}

```

`dua` Define `\newacronym` to always use the long forms (i.e. don't use acronyms)

```

\define@boolkey{glossaries.sty}[glsacr]{dua}[true]{%
\ifglsacrdua
\@gls@removedoption{dua}%
\fi
}

```

`shortcuts` Define acronym shortcuts.

```

\define@boolkey{glossaries.sty}[glsacr]{shortcuts}[true]{%

```

`\glsorder` Stores the glossary ordering. This may either be “word” or “letter”. This passes the relevant information to `makeglossaries`. The default is word ordering.

```

\newcommand*{\glsorder}{word}

```


`\@glsorder` The ordering information is written to the auxiliary file for `makeglossaries`, so ignore the auxiliary information.

```
\newcommand*\@glsorder}[1]{}
```

`order`

```
\define@choicekey{glossaries.sty}{order}{word,letter}{%
\def\glsorder{#1}}
```

`\ifglsxindy` Provide boolean to determine whether `xindy` or `makeindex` will be used to sort the glossaries.

```
\newif\ifglsxindy
```

The default is `makeindex`:

```
\glsxindyfalse
```

`makeindex` Define package option to specify that `makeindex` will be used to sort the glossaries:

```
\@gls@declareoption{makeindex}{\glsxindyfalse}
```

The `xindy` package option may have a value which in turn can be a key=value list. First define the keys for this sub-list. The boolean `glsnumbers` determines whether to automatically add the `glsnumbers` letter group.

```
\define@boolkey[gls]{xindy}{glsnumbers}[true]{%
\gls@xindy@glsnumberstrue
```

`\@xdy@main@language` Define what language to use for each glossary type (if a language is not defined for a particular glossary type the language specified for the main glossary is used.)

```
\def\@xdy@main@language{\languagename}%
```

`\gls@xdy@set@lang` If the `nomain` option has been used, need to check `\glsdefaulttype` before falling back on main. This will set `\@gls@langmod` for the given glossary.

```
\newcommand*\gls@xdy@set@lang}[1]{%
\ifcsundef{@xdy@#1@language}%
{%
\ifcsundef{@xdy@\glsdefaulttype @language}
{\let\@gls@langmod\@xdy@main@language}%
{\letcs\@gls@langmod{@xdy@\glsdefaulttype @language}}%
}%
{\letcs\@gls@langmod{@xdy@#1@language}}%
}
```

Define key to set the language

```
\define@key[gls]{xindy}{language}{\def\@xdy@main@language{#1}}
```

`\gls@codepage` Define the code page. If `\inputencodingname` is defined use that, otherwise initialise to utf8.

```
\ifdefvoid\inputencodingname
{\def\gls@codepage{utf8}}%
{\def\gls@codepage{\inputencodingname}}
```

Define a key to set the code page.

```
\define@key[gls]{xindy}{codepage}{\def\gls@codepage{#1}}
```

`xindy` Define package option to specify that `xindy` will be used to sort the glossaries:

```
\define@key[glossaries.sty]{xindy}[]{%
\glsxindytrue
\setkeys[gls]{xindy}{#1}%
}
```

`xindygloss` Provide a synonym for `xindy` that can be passed via the document class options.

```
\@gls@declareoption{xindygloss}{%
\glsxindytrue
}
```

`xindynoglsnumbers` Provide a synonym for `xindy=glsnumbers=false` that can be passed via the document class options.

```
\@gls@declareoption{xindynoglsnumbers}{%
\glsxindytrue
\gls@xindy@glsnumbersfalse
}
```

`\@domakeglossaries`

```
\providecommand{\@domakeglossaries}[1]{\if@filesw #1\fi}
```

`disablemakegloss` Provide a way of disabling `\makeglossaries`. For example, if a class or package explicitly uses `\makeglossaries`. This is a valueless option to allow it to be passed through the document class option list.

```
\@gls@declareoption{disablemakegloss}{%
\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makenoidxglossaries\space has already been used)}%
}%
{%
\ifdefequal\@makeglossary\@gobble
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makeglossaries\space has already been used)}%
}%
}%
\renewcommand{\@domakeglossaries}[1]{%
\PackageInfo{glossaries}{\string\makeglossaries\space and
\string\makenoidxglossaries\space have been disabled}%
}
```

```

    }%
  }%
}

```

restoremakeloss Cancel the effect of disablemakegloss.

```

\@gls@declareoption{restoremakeloss}{%
  \ifdefequal\makeglossaries\@no@makeglossaries
  {%
    \GlossariesWarning{Option ‘restoremakeloss’ has no effect
      (\string\makenoidxglossaries\space has already been used)}%
  }%
  {%
    \ifdefequal\@makeglossary\@gobble
    {%
      \GlossariesWarning{Option ‘restoremakeloss’ has no effect
        (\string\makeglossaries\space has already been used)}%
    }%
    {%
      \PackageInfo{glossaries}{\string\makeglossaries\space and
        \string\makenoidxglossaries\space have been restored}%
      \let\@domakeglossaries\@firstofone
    }%
  }%
}

```

\@do@write@glslabels

```

\newcommand*{\@do@write@glslabels}{%
  \AtEndDocument{\@do@write@glslabels}%
  \let\@do@write@glslabels\relax
}

```

\@@do@write@glslabels

```

\newcommand*{\@@do@write@glslabels}{%
  \newwrite\@gls@labelsfile
  \immediate\openout\@gls@labelsfile=\jobname.glslabels
  \protected@edef\@gls@fulllist{\@glo@types}%
  \ifdefempty{\@ignored@glossaries}{}%
  {\protected@eappto\@gls@fulllist{,\@ignored@glossaries}}%
  \forallglsentries[\@gls@fulllist]{\@glsentry}%
  {%
    \ifdefempty{\@glsentry}{}%
    {%
      \ifx\do@write@glslabelsname\@gobble
        \def\@gls@thisentryname{%
      }%
      \else
        \letcs{\@gls@thisentryname}{glo@\@glsdetoklabel{\@glsentry}@name}%
        \@onelevel@sanitize\@gls@thisentryname
      \fi
    }%
  }%
}

```

```

        \immediate\write\@gls@labelsfile
        {\@glsentry\do@write@glslabelsname{\@gls@thisentryname}}%
    }%
}
\immediate\closeout\@gls@labelsfile
}

```

`\do@write@glslabelsname` Support for additionally writing the name as well as the label. Let to `\@gobble` if name not required and to `\@write@glslabelsname` if required.

```
\newcommand*{\do@write@glslabelsname}[1]{}
```

`\@write@glslabelsname`

```

\begingroup
\catcode'\^^I12
\gdef\@write@glslabelsname#1{\^^I#1}
\endgroup

```

`writeglslabels` This option will write all entry labels (including those in ignored glossaries) to the file `\jobname.glslabels`. This file may be used by text editors for label auto-completion.

```

\@gls@declareoption{writeglslabels}{\do@write@glslabels
\let\do@write@glslabelsname\@gobble}

```

`writeglslabelnames` As the above but also writes the name.

```

\@gls@declareoption{writeglslabelnames}{\do@write@glslabels
\let\do@write@glslabelsname\@write@glslabelsname}

```

`\ifglsautomake`

```
\newif\ifglsautomake
```

`\gls@automake@nr`

```
\newcommand{\gls@automake@nr}{1}
```

`\gls@automake@makegloss` Provide a way to allow `makeglossaries` or `makeglossaries-lite` run via `automake` instead of explicit calls to `makeindex` or `xindy`. Extended by `glossaries-extra` to also call `bib2gls` if applicable.

```
\newcommand{\gls@automake@makegloss}{}
```

`\gls@automake@option`

```
\newcommand{\gls@automake@option}{automake=\gls@automake@val}
```

`\@gls@do@automake@err` NB `glossaries-extra` v1.14 defines similar command `\@gls@doautomake@err`.

```

\newcommand*{\@gls@do@automake@err}{%
\PackageError{glossaries}{You must use
\string\makeglossaries\space with \gls@automake@option}
{%
    Either remove the \gls@automake@option\space setting or
    add \string\makeglossaries\space to your document preamble.%
}%
}%

```

`automake` If this setting is on, automatically run `makeindex/xindy` at the end of the document. Must be used with `\makeglossaries` (unless `glossaries-extra` is loaded with `record` option). Default is false. As from v4.42, this is now a choice rather than boolean key.

```
\define@choicekey{glossaries.sty}{automake}%
  [\gls@automake@val\gls@automake@nr]{true,false,immediate,makegloss,lite,delayed}[immediate]{%
  \ifcase\gls@automake@nr\relax
    \GlossariesWarning{automake=true deprecated. Use automake=delayed for a delayed write}%
```

case 0: true (same as delayed)

```
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
```

case 1: false

```
\glsautomakefalse
\renewcommand{\gls@automake@makegloss}{}%
\or
```

case 2: immediate

```
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
```

case 3: makegloss

```
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries \@gls@run@output@dir{-d}}%
\or
```

case 4: lite

```
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
\or
```

case 5: delayed

```
\def\gls@automake@nr{0}%
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\fi
\renewcommand{\gls@automake@option}{automake=\gls@automake@val}%
\ifglsautomake
  \let\@gls@doautomake\@gls@do@automake@err
\else
  \renewcommand*{\@gls@doautomake}{}%
\fi
```

```
}
\glsautomakefalse
```

`\@gls@doautomake`

```
\newcommand*{\@gls@doautomake}{%
\AtEndDocument{\@gls@doautomake}
```

`automakegloss` Provide a synonym for `automake=makegloss` that can be passed via the document class options.

```
\@gls@declareoption{automakegloss}{%
  \glsautomaketrue
  \renewcommand{\gls@automake@option}{automakegloss}%
  \def\gls@automake@val{makegloss}%
  \def\gls@automake@nr{3}%
  \renewcommand{\gls@automake@makegloss}{makeglossaries \@gls@run@output@dir{-d}}%
  \let\@gls@doautomake\@gls@do@automake@err
}
```

`automakeglosslite` Provide a synonym for `automake=lite` that can be passed via the document class options.

```
\@gls@declareoption{automakeglosslite}{%
  \glsautomaketrue
  \renewcommand{\gls@automake@option}{automakeglosslite}%
  \def\gls@automake@val{lite}%
  \def\gls@automake@nr{4}%
  \renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
  \let\@gls@doautomake\@gls@do@automake@err
}
```

`savewrites` The `savewrites` package option is provided to save on the number of write registers.

```
\define@boolkey{glossaries.sty}[gls]{savewrites}[true]{%
  \ifgls@savewrites
    \renewcommand*{\gls@writefiles}{\@gls@writefiles}%
  \else
    \let\gls@writefiles\@empty
  \fi
}
```

Set default:

```
\gls@savewritesfalse
\let\gls@writefiles\@empty
```

`compatible-3.07` Rollback should now be used for backward-compatibility.

```
\define@boolkey{glossaries.sty}[gls]{compatible-3.07}[true]{%
  \ifbool{gls@compatible-3.07}%
  {%
    \@gls@removedoption{compatible-3.07}%
  }%
  {}%
}
\boolfalse{gls@compatible-3.07}
```

`compatible-2.07` Rollback should now be used for backward-compatibility.

```
\define@boolkey{glossaries.sty}[gls]{compatible-2.07}[true]{%
```

```

\ifbool{glscompatible-2.07}%
{%
  \@gls@removedoption{compatible-2.07}%
}%
{}%
}
\boolfalse{glscompatible-2.07}

```

`\gls@original@makeglossary` Store the original definition.

```
\let\gls@original@makeglossary\makeglossary
```

`\gls@original@glossary` Store the original definition.

```
\let\gls@original@glossary\glossary
```

`\makeglossary` The `\makeglossary` command is redefined to be identical to `\makeglossaries`. (This is done partly to reinforce the message that you must either use `\@makeglossary` for all the glossaries or for none of them, but is also a legacy from the old glossary package.) As from v4.50 this command will only be redefined if `kernelglossredefs` is used.

`\@gls@override@glossary`

```

\newcommand*\@gls@override@glossary}[1][main]{%
  \GlossariesWarning{Use of \string\glossary\space with
glossaries.sty is deprecated. \MessageBreak Indexing should be performed
with the user level \MessageBreak commands, such as \string\gls\space or
\string\glsadd. If you need the \MessageBreak original definition of
\string\glossary\space use the package \MessageBreak options
kernelglossredefs=false (to restore the \MessageBreak former definition of
\string\glossary) and nomain (if the \MessageBreak file extensions cause a
conflict)}}%
  \gls@glossary{#1}%
}

```

In v4.10, the redefinition of `\glossary` was removed since it was never intended as a user level command (and wasn't documented in the user manual), however it seems there are packages that have hacked the internal macros used by `glossaries` and no longer work with this redefinition removed, so it's been restored in v4.11 but is not used at all by `glossaries`. (This may be removed or moved to a compatibility mode in future.) As from v4.41, the use of `\glossary` now triggers a warning. The package option `kernelglossredefs=nowarn` may be used to remove the warning, but it's better not to use `\glossary`.

`\glossary` As from v4.50 this command will only be redefined if `kernelglossredefs` is used.

`kernelglossredefs` The `glossaries` package redefines the kernel commands `\makeglossary` and `\glossary` as a legacy action from the former `glossary` package. In hindsight that wasn't a good idea as it's possible that the `glossaries` package may need to be used with another class or package that needs these commands. Neither of these commands are documented in the main user manual and their use is

not encouraged. The preferred commands are `\makeglossaries` (to open all associated glossary files) and `\gls`, `\glstext` etc or `\glsadd` for indexing.

As from v4.50, the default is `kernelglossredefs=false`.

```
\define@choicekey{glossaries.sty}{kernelglossredefs}%
[\gls@kernelglossredefs@val\gls@kernelglossredefs@nr]{true,false,nowarn}[true]%
{%
  \ifcase\gls@kernelglossredefs@nr\relax
  \def\glossary{\@gls@override@glossary}%
  \def\makeglossary{%
    \GlossariesWarning{Use of \string\makeglossary\space with
      glossaries.sty is deprecated. Use \string\makeglossaries\space
      instead. If you need the original definition of
      \string\makeglossary\space use the package options
      kernelglossredefs=false (to prevent redefinition of
      \string\makeglossary) and nomain (if the file extensions cause a
      conflict)}%
    \makeglossaries
  }%
  \or
  \let\glossary\gls@original@glossary
  \let\makeglossary\gls@original@makeglossary
  \or
  \def\makeglossary{\makeglossaries}%
  \renewcommand*{\@gls@override@glossary}[1][main]{%
    \gls@glossary{##1}%
  }%
  \fi
}
```

`symbols` Create a “symbols” glossary type

```
\@gls@declareoption{symbols}{%
  \let\@gls@do@symbolsdef\@gls@symbolsdef
}
```

Default is not to define the symbols glossary:

```
\newcommand*{\@gls@do@symbolsdef}{}%
```

`\@gls@symbolsdef`

```
\newcommand*{\@gls@symbolsdef}{%
  \newglossary[slg]{symbols}{sls}{slo}{\glsymbolsgroupname}%
  \newcommand*{\printsymbols}[1][ ]{\printglossary[type=symbols,##1]}%
```

Define hook to set the toc title when translator is in use.

```
\newcommand*{\gls@tr@set@symbols@toctitle}{%
  \translatelet{\glossarytoctitle}{Symbols (glossaries)}%
}%
}%
```

`numbers` Create a “symbols” glossary type

```
\@gls@declareoption{numbers}{%
```



```

\let\@gls@do@numbersdef\@gls@numbersdef
}

```

Default is not to define the numbers glossary:

```

\newcommand*\@gls@do@numbersdef{}

```

`\@gls@numbersdef`

```

\newcommand*\@gls@numbersdef{%
  \newglossary[nlg]{numbers}{nls}{nlo}{\glsnumbersgroupname}%
  \newcommand*\@printnumbers}[1][\printglossary[type=numbers,##1]]%

```

Define hook to set the toc title when translator is in use.

```

\newcommand*\@gls@tr@set@numbers@toctitle{%
  \translatelet{\glossarytoctitle}{Numbers (glossaries)}%
}%
}

```

`index` Create an “index” glossary type

```

\@gls@declareoption{index}{%
  \ifx\@gls@do@indexdef\@empty
    \let\@gls@do@indexdef\@gls@indexdef
  \fi
}

```

`noglossaryindex` Counteract index if it happens to be globally used in the document class.

```

\@gls@declareoption{noglossaryindex}{%
  \let\@gls@do@indexdef\relax
}

```

Default is not to define index glossary:

```

\newcommand*\@gls@do@indexdef{}

```

`\@gls@indexdef` `\indexname` isn’t set by glossaries.

```

\newcommand*\@gls@indexdef{%
  \newglossary[ilg]{index}{ind}{idx}{\indexname}%
  \newcommand*\@printindex}[1][\printglossary[type=index,##1]]%
  \newcommand*\@newterm}[2][\%
    \newglossaryentry{##2}%
    {type={index},name={##2},description={\nopostdesc},##1}}
  \let\@gls@do@indexdef\relax
}%

```

`mfirstuc` Similar to `mfirstuc`’s expanded and unexpanded package options. Not providing the other option.

```

\define@choicekey{glossaries.sty}{mfirstuc}%
[\gls@mfirstuc@val\gls@mfirstuc@nr]%
{expanded,unexpanded}%
{%
  \ifcase\gls@mfirstuc@nr
    % expanded

```

```

\renewcommand*\glsmakefirstuc}[1]{\MFUsentencecase{#1}}%
\or
% unexpanded
\renewcommand*\glsmakefirstuc}[1]{\MFUsentencecase{\unexpanded{#1}}}%
\fi
}

```

Process package options. First process any options that have been passed via the document class.

```

\@for\CurrentOption :=\@declaredoptions\do{%
\ifx\CurrentOption\@empty
\else
\@expandtwoargs
\in@ {,\CurrentOption ,}{,\@classoptionslist,\@curroptions,}%
\ifin@
\@use@option
\expandafter \let\csname ds@\CurrentOption\endcsname\@empty
\fi
\fi
}

```

Now process options passed to the package:

```
\ProcessOptionsX
```

No longer load backward compatibility stuff as from v4.50.

If LuaLaTeX and automake set, need to load shellesc. Note that if automake is passed to `\setupglossaries` instead, then shellesc will need to be loaded explicitly. Unless the L^AT_EX kernel is new enough to support l3sys shell commands

```
\@gls@runshell
```

```

\newcommand*\@gls@runshell}[1]{%
\PackageWarning{glossaries}{Ignoring attempt to run command ‘#1’}%
}

```

```
\@gls@run@unrestricted@shell
```

```
\newcommand*\@gls@run@unrestricted@shell}[1]{\@gls@runshell{#1}}
```

```
\@gls@run@output@dir
```

```
\@gls@run@output@dir{<switch>}
```

This should expand to nothing if no output directory or to `<switch> <dir>` otherwise, where `<switch>` is the application’s switch that specifies the output directory and `<dir>` is the output directory.

```
\newcommand*\@gls@run@output@dir}[1]{}
```

For the case where there’s no switch for the directory and the file name needs to include the output path:

`\@gls@run@output@file`

```
\@gls@run@output@file{\filename}
```

This should expand to `\filename` or `\dir\sep\filename` where `\dir` is the output directory and `\sep` is the directory separator. This is provided for direct calls to `makeindex` or `xindy`.

```
\newcommand*\@gls@run@output@file}[1]{#1}
```

```
\ifglsautomake
```

Only load `shellesc` if LuaLaTeX and delayed write or old kernel.

```
\newcommand*\@gls@loadshellesc{\ifdef\directlua{\RequirePackage{shellesc}}{}}%
\ExplSyntaxOn
\sys_if_shell:TF
{
  \sys_if_shell_unrestricted:F
  {
    \cs_set:Npn \@gls@run@unrestricted@shell #1
    {
```

Warn rather than error in case using restricted mode for draft document.

```
\GlossariesWarningNoLine
{
  Unrestricted ~ shell ~ required ~ for ~ current ~
  automake ~ setting. ~
  Either ~ remove ~ automake ~ option ~ and ~ run ~ the ~
  system ~ command ~ outside ~ of ~ TeX ~ or ~ enable ~
  unrestricted ~ mode ~ (but ~ be ~ aware ~ of ~ the ~
  security ~ risks ~ in ~ doing ~ so)
}
```

Try running anyway in case some debugging tool will parse the log file afterwards.

```
\@gls@runshell { #1 }
}
}
```

Try to determine if the output directory has been set. This requires at least TeX Live 2024 and is only applicable for `makeglossaries` and `bib2gls`. Unsupported with `makeglossaries-lite` and for direct calls to `makeindex` and `xindy`. In the case of `makeindex`, the directory can be included in the reference for the input, output and style files, but the OS directory divider needs to be determined. This doesn't seem to work for `xindy` as it can't find the style module.

TODO: allow for the possibility that the environment variable has already been found? For now, just test if the token list variable has already been defined. Possible problems with user setting the variable: awkward characters need to be dealt with for one document but expansion may be required for another. For example, if the directory divider is a backslash and needs to be included in the path or if some other active character is included in the path name then the token list variable will need to have its contents converted. On the other hand,

the user may have their own placeholder command in which case the token list variable provided here needs to expand.

```

\tl_if_exist:NF \l_glossaries_output_dir_tl
{
  \tl_new:N \l_glossaries_output_dir_tl
  \cs_if_exist:NT \sys_get_shell:nnN
  {
    \sys_get_shell:nnNF
    { kpsewhich ~ --var-value=TEXMF_OUTPUT_DIRECTORY }
    { }
    \l_glossaries_output_dir_tl
    {
      \tl_clear:N \l_glossaries_output_dir_tl
    }
  }
}
\tl_if_empty:NF \l_glossaries_output_dir_tl
{
  \cs_set:Npn \@gls@run@output@dir #1
  {
    #1 ~ \glsquote { \l_glossaries_output_dir_tl }
  }
}

```

Check platform to determine directory divider. NB \jobname may include quotes so don't include argument inside \glsquote. Tested on Linux only.

```

\sys_if_platform_windows:TF
{
  \cs_set:Npn \@gls@run@output@file #1
  {
    \glsquote { \l_glossaries_output_dir_tl } \glsbackslash #1
  }
}
{
  \cs_set:Npn \@gls@run@output@file #1
  {
    \glsquote { \l_glossaries_output_dir_tl } / #1
  }
}
}
\int_if_zero:nTF { \gls@automake@nr }
{

```

Delayed write

```

\cs_set:Npn \@gls@runshell #1 { \exp_args:Ne \write18 { #1 } }
}
{

```

Immediate write

```

\cs_set:Npn \@gls@runshell #1 { \sys_shell_now:e { #1 } }
\cs_set_eq:NN \@gls@loadshellesc \relax
}

```

```

}
{
  \cs_set_eq:NN \@gls@loadshellesc \relax
  \legacy_if_set_false:n { glsautomake }
  \PackageWarning { glossaries }
  {
    Can't ~ implement ~ automake: ~ no ~ shell
  }
}
\ExplSyntaxOff
\@gls@loadshellesc
\fi

```

`\setupglossaries` Provide way to set options after package has been loaded. However, some options must be set before `\ProcessOptionsX`, so they have to be disabled:

```

\disable@keys{glossaries.sty}{compatible-2.07,%
xindy,xindygloss,xindynoglsnumbers,makeindex,%
acronym,translate,notranslate,languages,locales,nolong,nosuper,notree,nostyles,%
nomain,noglossaryindex}

```

Now define `\setupglossaries`:

```

\newcommand*{\setupglossaries}[1]{%
  \renewcommand*{\@gls@setacrstyle}{}%
  \ifglsacrshortcuts
    \def\@gls@setupshortcuts{\glsacrshortcutstrue}%
  \else
    \def\@gls@setupshortcuts{%
      \ifglsacrshortcuts
        \DefineAcronymSynonyms
      \fi
    }%
  \fi
  \glsacrshortcutsfalse
  \let\@gls@do@numbersdef\relax
  \let\@gls@do@symbolssdef\relax
  \let\@gls@do@indexdef\relax
  \let\@gls@do@acronymsdef\relax
  \ifglsentrycounter
    \let\@gls@doentrycounterdef\relax
  \else
    \let\@gls@doentrycounterdef\@gls@define@glossaryentrycounter
  \fi
  \ifglsesubentrycounter
    \let\@gls@dosubentrycounterdef\relax
  \else
    \let\@gls@dosubentrycounterdef\@gls@define@glossarysubentrycounter
  \fi
  \setkeys{glossaries.sty}{#1}%
  \@gls@setacrstyle
  \@gls@setupshortcuts
}

```

```

\@gls@do@acronymsdef
\@gls@do@numbersdef
\@gls@do@symbolssdef
\@gls@do@indexdef
\@gls@doentrycounterdef
\@gls@dosubentrycounterdef
}

```

If chapters are defined and the user has requested the section counter as a package option, `\@chapter` will be modified so that it adds a `section.<n>.0` target, otherwise entries placed before the first section of a chapter will have undefined links.

The same problem will also occur if a lower sectional unit is used, but this is less likely to happen. If it does, or if you change `\glscounter` to `section` later, you will have to specify a different counter for the entries that give rise to a `name{<section-level>.<n>.0}` non-existent warning (e.g. `\gls[counter=chapter]{label}`).

```

\ifthenelse{\equal{\glscounter}{section}}%
{%
  \ifcsundef{chapter}{}%
  {%
    \let\@gls@old@chapter\@chapter
    \def\@chapter[#1]#2{\@gls@old@chapter[#1]#2}%
    \ifcsundef{hyperdef}{\hyperdef{section}{\thesection}{}}%
  }%
}%
{}

```

`\@gls@onlypremakeg` Some commands only have an effect when used before `\makeglossaries`. So define a list of commands that should be disabled after `\makeglossaries`

```
\newcommand*{\@gls@onlypremakeg}{}
```

`\@onlypremakeg` Adds the specified control sequence to the list of commands that must be disabled after `\makeglossaries`.

```

\newcommand*{\@onlypremakeg}[1]{%
  \ifx\@gls@onlypremakeg\@empty
    \def\@gls@onlypremakeg{#1}%
  \else
    \expandafter\toks@\expandafter{\@gls@onlypremakeg}%
    \edef\@gls@onlypremakeg{\the\toks@,\noexpand#1}%
  \fi
}

```

`\@disable@onlypremakeg` Disable all commands listed in `\@gls@onlypremakeg`

```

\newcommand*{\@disable@onlypremakeg}{%
\@for\@thiscs:=\@gls@onlypremakeg\do{%
  \expandafter\@disable@premakecs\@thiscs%
}}

```

`\@disable@premakecs` Disables the given command.

```
\newcommand*{\@disable@premakecs}[1]{%
  \def#1{\PackageError{glossaries}{\string#1\space may only be
    used before \string\makeglossaries}{You can't use
    \string#1\space after \string\makeglossaries}}%
}
```

2.3 Predefined Text

Set up default textual tags that are used by this package. Some of the names may already be defined (e.g. by `babel`) so `\providecommand` is used.

Main glossary title:

```
\glossaryname
\providecommand*\glossaryname{Glossary}
```

The title for the `acronym` glossary type (which is defined if `acronym` package option is used) is given by `\acronymname`. If the `acronym` package option is not used, `\acronymname` won't be used.

```
\acronymname
\providecommand*\acronymname{Acronyms}
```

```
\glstocctitle Sets the TOC title for the given glossary.
\newcommand*\glstocctitle[1]{%
  \def\glossarytocctitle{\csname @glotype@#1@title\endcsname}}
```

The following commands provide text for the headers used by some of the tabular-like glossary styles. Whether or not they get used in the glossary depends on the glossary style.

```
\entryname
\providecommand*\entryname{Notation}
```

```
\descriptionname
\providecommand*\descriptionname{Description}
```

```
\symbolname
\providecommand*\symbolname{Symbol}
```

```
\pagelistname
\providecommand*\pagelistname{Page List}
```

Labels for `makeindex`'s symbol and number groups:

```
\glssymbolsgroupname
\providecommand*\glssymbolsgroupname{Symbols}
```

```

\glsnumbersgroupname
    \providecommand*{\glsnumbersgroupname}{Numbers}

\glspluralsuffix The default plural is formed by appending \glspluralsuffix to the singular
form.
    \newcommand*{\glspluralsuffix}{s}

\glsacrpluralsuffix Default plural suffix for acronyms
    \newcommand*{\glsacrpluralsuffix}{\glspluralsuffix}

\glsupacrpluralsuffix
    \newcommand*{\glsupacrpluralsuffix}{\glstextup{\glsacrpluralsuffix}}

\seename
    \providecommand*{\seename}{see}

\andname
    \providecommand*{\andname}{\&}

Add multi-lingual support. Thanks to everyone who contributed to the trans-
lations from both comp.text.tex and via email.

\RequireGlossariesLang
    \newcommand*{\RequireGlossariesLang}[1]{%
        \ifundefined{ver@glossaries-#1.ldf}{\input{glossaries-#1.ldf}}{}%
    }

\ProvidesGlossariesLang
    \newcommand*{\ProvidesGlossariesLang}[1]{%
        \ProvidesFile{glossaries-#1.ldf}%
    }

\addglossarytocaptions Does nothing if translator hasn't been loaded.
    \newcommand*{\addglossarytocaptions}[1]{}

    As from v4.12, multilingual support has been split off into independently-
    maintained language modules.

    \ifglstranslate
    Load tracklang:
        \RequirePackage{tracklang}[2019/11/30]
    Track any languages explicitly requested via the languages option.
        \ifdefvoid\@gls@requested@languages{%
            {%
                \for\@gls@thislang:=\@gls@requested@languages\do{%
                    \TrackIfKnownLanguage{\@gls@thislang}{}%
                    {\GlossariesWarning{unknown language ‘\@gls@thislang’}}%
                }%
            }%
        }%

```


Load translator if required.

```
\@gls@usetranslator
```

If using `translator`, `\glossaryname` should be defined in terms of `\translate`, but if `babel` is also loaded, it will redefine `\glossaryname` whenever the language is set, so override it. (Don't use `\addto` as `polyglossia` doesn't define it.)

```
\@ifpackageloaded{translator}
{%
```

If the language options have been specified through the document class, then `translator` can pick them up. If not, `translator` will default to English and any language option passed to `babel` won't be detected, so if `\trans@languages` is just `English` and `\bbl@loaded` isn't simply `english`, then don't use the `translator` dictionaries.

```
\ifboolexpr
{
  test {\ifdefstring{\trans@languages}{English}}
  and not
  test {\ifdefstring{\bbl@loaded}{english}}
}
{%
  \let\glsifusetranslator\@secondoftwo
}%
{%
  \usedictionary{glossaries-dictionary}%
  \renewcommand*{\addglossarytocaptions}[1]{%
    \ifcsundef{captions#1}{}%
    {%
      \expandafter\let\expandafter\@gls@tmp\csname captions#1\endcsname
      \expandafter\toks@\expandafter{\@gls@tmp
        \renewcommand*{\glossaryname}{\translate{Glossary}}}%
    }%
    \expandafter\edef\csname captions#1\endcsname{\the\toks@}%
  }%
}%
}%
}%
{}%
```

Check for tracked languages

```
\AnyTrackedLanguages
{%
  \ForEachTrackedDialect{\this@dialect}{%
    \IfTrackedLanguageFileExists{\this@dialect}%
    {glossaries-}% prefix
    {.ldf}%
  }%
  \RequireGlossariesLang{\CurrentTrackedTag}%
}%
{}%
```

```

        \@gls@missinglang@warn\this@dialect\CurrentTrackedLanguage
    }%
  }%
}%
{}%

```

if using translator use translator interface.

```

\glsifusetranslator
{%
  \renewcommand*\glssettoctitle}[1]{%
    \ifcsdef{gls@tr@set@#1@toctitle}%
    {%
      \csuse{gls@tr@set@#1@toctitle}%
    }%
    {%
      \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}%
    }%
  }%
  \renewcommand*\glossaryname{\translate{Glossary}}%
  \renewcommand*\acronymname{\translate{Acronyms}}%
  \renewcommand*\entryname{\translate{Notation (glossaries)}}%
  \renewcommand*\descriptionname{%
    \translate{Description (glossaries)}}%
  \renewcommand*\symbolname{\translate{Symbol (glossaries)}}%
  \renewcommand*\pagelistname{%
    \translate{Page List (glossaries)}}%
  \renewcommand*\glsymbolsgroupname{%
    \translate{Symbols (glossaries)}}%
  \renewcommand*\glsnumbersgroupname{%
    \translate{Numbers (glossaries)}}%
  }{%
\fi

```

Load datatool-base after languages tracked in case there's support for datatool-base as well. Note that datatool-base is always required, regardless of localisation, but datatool-base v3.0+ will also load tracklang if not already loaded.

```
\RequirePackage{datatool-base}
```

`\nopostdesc` Provide a means to suppress description terminator for a given entry. (Useful for entries with no description.) Has no effect outside the glossaries.

```
\DeclareRobustCommand*\nopostdesc{}
```

`\@nopostdesc` Suppress next description terminator.

```

\newcommand*\@nopostdesc{%
  \let\org@glspostdescription\glspostdescription
  \def\glspostdescription{%
    \let\glspostdescription\org@glspostdescription}%
}

```

`\@no@post@desc` Used for comparison purposes.

```
\newcommand*\@no@post@desc}{\nopostdesc}
```

`\glspar` Provide means of having a paragraph break in glossary entries

```
\newcommand{\glspar}{\par}
```

`\setStyleFile` Sets the style file. The relevant extension is appended.

```
\newcommand{\setStyleFile}[1]{%
  \renewcommand*\gls@istfilebase}{#1}%
```

Just in case `\istfilename` has been modified.

```
\ifglxindy
  \def\istfilename{\gls@istfilebase.xdy}
\else
  \def\istfilename{\gls@istfilebase.ist}
\fi
}
```

This command only has an effect prior to using `\makeglossaries`.

```
\@onlypremakeg\setStyleFile
```

The name of the `makeindex` or `xindy` style file is given by `\istfilename`. This file is created by `\writeist` (which is used by `\makeglossaries`) so redefining this command will only have an effect if it is done *before* `\makeglossaries`. As from v1.17, use `\setStyleFile` instead of directly redefining `\istfilename`.

`\istfilename`

```
\ifglxindy
  \def\istfilename{\gls@istfilebase.xdy}
\else
  \def\istfilename{\gls@istfilebase.ist}
\fi
```

`\gls@istfilebase`

```
\newcommand*\gls@istfilebase}{\jobname}
```

The `makeglossaries` Perl script picks up this name from the auxiliary file. If the name ends with `.xdy` it calls `xindy` otherwise it calls `makeindex`. Since its not required by \LaTeX , `\@istfilename` ignores its argument.

`\@istfilename`

```
\newcommand*\@istfilename}[1]{} 
```

This command is the value of the `page_compositor` `makeindex` key. Again, any redefinition of this command must take place *before* `\writeist` otherwise it will have no effect. As from 1.17, use `\glsSetCompositor` instead of directly redefining `\glscompositor`.

`\glscompositor`

```
\newcommand*\glscompositor}{.}
```

`\glsSetCompositor` Sets the compositor.

```
\newcommand*\glsSetCompositor[1]{%
  \renewcommand*\glscompositor{#1}}
```

Only use before `\makeglossaries`

```
\@onlypremakeg\glsSetCompositor
```

(The page compositor is usually defined as a dash when using `makeindex`, but most of the standard counters used by L^AT_EX use a full stop as the compositor, which is why I have used it as the default.) If `xindy` is used `\glscompositor` only affects the `arabic-page-numbers` location class.

`\@glsAlphacompositor` This is only used by `xindy`. It specifies the compositor to use when location numbers are in the form *<letter><compositor><number>*. For example, if `\@glsAlphacompositor` is set to “.” then it allows locations such as A.1 whereas if `\@glsAlphacompositor` is set to “-” then it allows locations such as A-1.

```
\newcommand*\@glsAlphacompositor{\glscompositor}
```

`\glsSetAlphaCompositor` Sets the alpha compositor.

```
\ifglsxindy
  \newcommand*\glsSetAlphaCompositor[1]{%
    \renewcommand*\@glsAlphacompositor{#1}}
\else
  \newcommand*\glsSetAlphaCompositor[1]{%
    \glsnoxindywarning\glsSetAlphaCompositor}
\fi
```

Can only be used before `\makeglossaries`

```
\@onlypremakeg\glsSetAlphaCompositor
```

`\gls@suffixF` Suffix to use for a two page list. This overrides the separator and the closing page number if set to something other than an empty macro.

```
\newcommand*\gls@suffixF}{}
```

`\glsSetSuffixF` Sets the suffix to use for a two page list.

```
\newcommand*\glsSetSuffixF[1]{%
  \renewcommand*\gls@suffixF{#1}}
```

Only has an effect when used before `\makeglossaries`

```
\@onlypremakeg\glsSetSuffixF
```

`\gls@suffixFF` Suffix to use for a three page list. This overrides the separator and the closing page number if set to something other than an empty macro.

```
\newcommand*\gls@suffixFF}{}
```

`\glsSetSuffixFF` Sets the suffix to use for a three page list.

```
\newcommand*\glsSetSuffixFF}[1]{%
  \renewcommand*\gls@suffixFF{#1}%
}
```

`\glsnumberformat` The command `\glsnumberformat` indicates the default format for the page numbers in the glossary. (Note that this is not the same as `\glossaryentrynumbers`, but applies to individual numbers or groups of numbers within an entry’s associated number list.) If hyperlinks are defined, it will use `\glshypernumber`, otherwise it will simply display its argument “as is”.

```
\ifcsundef{hyperlink}%
  {%
    \newcommand*\glsnumberformat}[1]{#1}%
  }%
  {%
    \newcommand*\glsnumberformat}[1]{\glshypernumber{#1}}%
  }
```

`\glslocationcstoencap` Used by `makeglossaries` to move commands out of the location numbers into the `encap`. The actual `encap` needs to be closest to the location in the event that hyperlinks are required.

```
\newcommand*\glslocationcstoencap}[3]{\csuse{#2}{\csuse{#1}{#3}}}
```

Individual numbers in an entry’s associated number list are delimited using `\delimN` (which corresponds to the `delim_n makeindex` keyword). The default value is a comma followed by a space.

`\delimN`

```
\newcommand*\delimN}{, }
```

A range of numbers within an entry’s associated number list is delimited using `\delimR` (which corresponds to the `delim_r makeindex` keyword). The default is an en-dash.

`\delimR`

```
\newcommand*\delimR}{--}
```

The glossary preamble is given by `\glossarypreamble`. This will appear after the glossary sectioning command, and before the `theglossary` environment. It is designed to allow the user to add information pertaining to the glossary (e.g. “page numbers in italic indicate the primary definition”) therefore `\glossarypreamble` shouldn’t be affected by the glossary style. (So if you define your own glossary style, don’t have it change `\glossarypreamble`.) The preamble is empty by default. If you have multiple glossaries, and you want a different preamble for each glossary, you will need to use `\printglossary` for each glossary type, instead of `\printglossaries`, and redefine `\glossarypreamble` before each `\printglossary`.

```
\glossary preamble
  \newcommand*{\glossary preamble}{%
    \csuse{@glossary preamble@currentglossary}%
  }
```

```
\setglossary preamble[<type>]{<text>}
```

```
\setglossary preamble
```

Code provided by Michael Pock.

```
\newcommand{\setglossary preamble}[2] [\gls default type]{%
  \ifglossary exists*{#1}%
  {\csgdef{@glossary preamble@#1}{#2}}%
  {\GlossariesWarning{Glossary ‘#1’ is not defined}}%
}
```

The glossary postamble is given by `\glossary postamble`. This is provided to allow the user to add something after the end of the `theglossary` environment (again, this shouldn't be affected by the glossary style). It is, of course, possible to simply add the text after `\printglossary`, but if you only want the postamble to appear after the first glossary, but not after subsequent glossaries, you can do something like:

```
%\renewcommand{\glossary postamble}{For a complete list of terms
%see \cite{blah}\gdef\glossary preamble{}}
%
```

```
\glossary postamble
  \newcommand*{\glossary postamble}{}
```

`\glossary section` The sectioning command that starts a glossary is given by `\glossary section`. (This does not form part of the glossary style, and so should not be changed by a glossary style.) If `\phantom section` is defined, it uses `\p@glossary section`, otherwise it uses `\@glossary section`.

```
\newcommand*{\glossary section}[2] [\@gls@title]{%
  \def\@gls@title{#2}%
  \ifcsundef{phantom section}%
  {%
    \@glossary section{#1}{#2}%
  }%
  {%
    \p@glossary section{#1}{#2}%
  }%
  \gls glossary mark{\glossary to ctitle}%
}
```

`\gls glossary mark` Sets the header mark for the glossary. Takes the glossary short (TOC) title as the argument. If `\glossary mark` hasn't been defined, it will be defined shortly, so use that. Otherwise don't use it as it may not be compatible.

```

\ifcsundef{glossarymark}%
{%
  \newcommand{\glsglossarymark}[1]{\glossarymark{#1}}
}%
{%
  \@ifclassloaded{memoir}
  {%
    \newcommand{\glsglossarymark}[1]{%
      \ifglsucmark
        \markboth{\memUHead{#1}}{\memUHead{#1}}%
      \else
        \markboth{#1}{#1}%
      \fi
    }
  }%
  {%
    \newcommand{\glsglossarymark}[1]{%
      \ifglsucmark
        \@mkboth{\glssupercase{#1}}{\glssupercase{#1}}%
      \else
        \@mkboth{#1}{#1}%
      \fi
    }
  }
}
}

```

`\glossarymark` Provided for backward compatibility:

```

\providecommand{\glossarymark}[1]{%
  \ifglsucmark
    \@mkboth{\glssupercase{#1}}{\glssupercase{#1}}%
  \else
    \@mkboth{#1}{#1}%
  \fi
}

```

The required sectional unit is given by `\@glossarysec` which was defined by the `section` package option. The starred form of the command is chosen. If you don't want any sectional command, you will need to redefine `\glossarysection`. The sectional unit can be changed, if different sectional units are required.

`\setglossarysection`

```

\newcommand*{\setglossarysection}[1]{%
  \setkeys{glossaries.sty}{section=#1}}

```

The command `\glossarysection` indicates how to start the glossary section if `\phantomsection` is not defined.

`\@glossarysection`

```

\newcommand*{\@glossarysection}[2]{%

```

```

\ifdefempty\@glossarysecstar
{%
  \csname\@glossarysec\endcsname[#1]{#2}%
}%
{%
  \csname\@glossarysec\endcsname*{#2}%
  \@gls@toc{#1}{\@glossarysec}%
}%

```

Do automatic labelling if required

```

\@glossaryseclabel
}

```

As `\@glossarysection`, but put in `\phantomsection`, and swap where `\@gls@toc` goes. If using chapters do a `\clearpage`. This ensures that the hyper link from the table of contents leads to the line above the heading, rather than the line below it.

`\@p@glossarysection`

```

\newcommand*\@p@glossarysection}[2]{%
  \gls@clearpage
  \phantomsection
  \ifdefempty\@glossarysecstar
  {%
    \csname\@glossarysec\endcsname{#2}%
  }%
  {%
    \@gls@toc{#1}{\@glossarysec}%
    \csname\@glossarysec\endcsname*{#2}%
  }%
}

```

Do automatic labelling if required

```

\@glossaryseclabel
}

```

`\gls@docclearpage` The `\gls@docclearpage` command is used to issue a `\clearpage` (or `\cleardoublepage`) depending on whether the glossary sectional unit is a chapter. If the sectional unit is something else, do nothing.

```

\newcommand*\gls@docclearpage{%
  \ifthenelse{\equal{\@glossarysec}{chapter}}%
  {%
    \ifcsundef{cleardoublepage}%
    {%
      \clearpage
    }%
  }%
  {\ifcsdef{if@openright}%
  {%
    \if@openright
      \cleardoublepage
    }%
  }%
}

```



```

        \else
        \clearpage
        \fi
    }%
    {%
    \cleardoublepage
    }%
    }%
    }%
    {}%
}

```

`\glsclearpage` This just calls `\gls@docclearpage`, but it makes it easier to have a user command so that the user can override it.

```
\newcommand*\glsclearpage{\gls@docclearpage}
```

The glossary is added to the table of contents if `glstoc` flag set. If it is set, `\@gls@toc` will add a line to the `.toc` file, otherwise it will do nothing. (The first argument to `\@gls@toc` is the title for the table of contents, the second argument is the sectioning type.)

```

\@gls@toc
\newcommand*\@gls@toc[2]{%
  \ifglstoc
  \ifglsnumberline
  \addcontentsline{toc}{#2}{\protect\numberline{#1}}%
  \else
  \addcontentsline{toc}{#2}{#1}%
  \fi
\fi
}

```

2.4 Xindy

This section defines commands that only have an effect if `xindy` is used to sort the glossaries.

`\glsnoxindywarning` Issues a warning if `xindy` hasn't been specified. These warnings can be suppressed by redefining `\glsnoxindywarning` to ignore its argument

```

\newcommand*\glsnoxindywarning[1]{%
  \GlossariesWarning{Not in xindy mode --- ignoring \string#1}%
}

```

`\glsnomakeindexwarning` Reverse for commands that may only be used with `makeindex`.

```

\newcommand*\glsnomakeindexwarning[1]{%
  \GlossariesWarning{Not in makeindex mode --- ignoring \string#1}%
}

```

```

\@xdyattributes Define list of attributes (\string is used in case the double quote character has
been made active)
\ifglxindy
\edef\@xdyattributes{\string"default\string"}%
\fi

\@xdyattributelist Comma-separated list of attributes.
\ifglxindy
\edef\@xdyattributelist{}%
\fi

\@xdylocref Define list of markup location references.
\ifglxindy
\def\@xdylocref{}
\fi

\@gls@ifinlist
\newcommand*\@gls@ifinlist[4]{%
\def\@do@ifinlist##1,#1,##2\end@do@ifinlist{%
\def\@gls@listsuffix{##2}%
\ifx\@gls@listsuffix\@empty
#4%
\else
#3%
\fi
}%
\@do@ifinlist,#2,#1,\end@do@ifinlist
}

\GlsAddXdyCounters Need to know all the counters that will be used in location numbers for Xindy.
Argument may be a single counter name or a comma-separated list of counter
names.
\ifglxindy
\newcommand*\@xdycounters{\@glscounter}
\newcommand*\GlsAddXdyCounters[1]{%
\@for\@gls@ctr:=#1\do{%
Check if already in list before adding.
\edef\@do@addcounter{%
\noexpand\@gls@ifinlist{\@gls@ctr}{\@xdycounters}{}%
}%
\noexpand\edef\noexpand\@xdycounters{\@xdycounters,%
\noexpand\@gls@ctr}%
}%
}%
\@do@addcounter
}
}

```

Only has an effect before `\writeist`:

```
\@onlypremakeg\GlsAddXdyCounters
\else
\newcommand*\GlsAddXdyCounters[1]{%
\glsnoxindywarning\GlsAddXdyAttribute
}
\fi
```

`@disabled@glsaddxdycounters` Counters must all be identified before adding attributes.

```
\newcommand*\@disabled@glsaddxdycounters{%
\PackageError{glossaries}{\string\GlsAddXdyCounters\space
can't be used after \string\GlsAddXdyAttribute}{Move all
occurrences of \string\GlsAddXdyCounters\space before the first
instance of \string\GlsAddXdyAttribute}%
}
```

`\GlsAddXdyAttribute` Adds an attribute.

```
\ifglsxindy
```

First define internal command that adds an attribute for a given counter (2nd argument is the counter):

```
\newcommand*\@glsaddxdyattribute[2]{%
```

Add to xindy attribute list

```
\edef\xdyattributes{\@xdyattributes ^^J
\string"#2#1\string"}%
```

Add to xindy markup location.

```
\expandafter\toks@\expandafter{\@xdylocref}%
\edef\xdylocref{\the\toks@ ^^J%
(markup-locref
:open \string"glstildechar n%
\expandafter\string\csname glsX#2X#1\endcsname
\string" ^^J
:close \string"\string" ^^J
:attr \string"#2#1\string")}%
```

Define associated attribute command `\glsX<counter>X<attribute>{\<Hprefix>}{<n>}`

```
\expandafter\gdef\csname glsX#2X#1\endcsname##1##2{%
\setentrycounter[##1]{#2}\csname #1\endcsname{##2}%
}%
}
```

High-level command:

```
\newcommand*\GlsAddXdyAttribute[1]{%
```

Add to comma-separated attribute list

```
\ifx\xdyattributelist\@empty
\edef\xdyattributelist{#1}%
\else
```

```

\edef\xdyattributelist{\@xdyattributelist,#1}%
\fi

```

First add the attribute without the counter name:

```

\edef\xdyattributes{\@xdyattributes ^^J
\string"#1\string"}%

```

Iterate through all specified counters and add counter-dependent attributes:

```

\@for\@this@counter:=\@xdycounters\do{%
\protected@edef\gls@do@addxdyattribute{%
\noexpand\@glsaddxdyattribute{#1}{\@this@counter}%
}
\gls@do@addxdyattribute
}%

```

All occurrences of `\GlsAddXdyCounters` must be used before this command

```

\let\GlsAddXdyCounters\@disabled@glsaddxdycounters
}

```

Only has an effect before `\writeist`:

```

\@onlypremakeg\GlsAddXdyAttribute
\else
\newcommand*\GlsAddXdyAttribute[1]{%
\glsnoxindywarning\GlsAddXdyAttribute}
\fi

```

`\gls@addpredefinedattributes` Add known attributes for all defined counters

```

\ifglsxindy
\newcommand*{\@gls@addpredefinedattributes}{%
\GlsAddXdyAttribute{glsnumberformat}
\GlsAddXdyAttribute{textrm}
\GlsAddXdyAttribute{textsf}
\GlsAddXdyAttribute{texttt}
\GlsAddXdyAttribute{textbf}
\GlsAddXdyAttribute{textmd}
\GlsAddXdyAttribute{textit}
\GlsAddXdyAttribute{textup}
\GlsAddXdyAttribute{textsl}
\GlsAddXdyAttribute{textsc}
\GlsAddXdyAttribute{emph}
\GlsAddXdyAttribute{glsnumber}
\GlsAddXdyAttribute{hyper}
\GlsAddXdyAttribute{hypersf}
\GlsAddXdyAttribute{hypertt}
\GlsAddXdyAttribute{hyperbf}
\GlsAddXdyAttribute{hypermd}
\GlsAddXdyAttribute{hyperit}
\GlsAddXdyAttribute{hyperup}
\GlsAddXdyAttribute{hypersl}
\GlsAddXdyAttribute{hypersc}
\GlsAddXdyAttribute{hyperemph}
}

```

```

    \GlsAddXdyAttribute{glsignore}
  }
  \else
    \let\@gls@addpredefinedattributes\relax
  \fi

```

`\@xdyuseralphabets` List of additional alphabets

```

\def\@xdyuseralphabets{}

```

`\GlsAddXdyAlphabet` `\GlsAddXdyAlphabet{<name>}{<definition>}` adds a new alphabet called *<name>*. The definition must use xindy syntax.

```

\ifglsxindy
  \newcommand*\GlsAddXdyAlphabet}[2]{%
    \edef\@xdyuseralphabets{%
      \@xdyuseralphabets ^^J
      (define-alphabet "#1" (#2))}
  \else
    \newcommand*\GlsAddXdyAlphabet}[2]{%
      \glsnoxindywarning\GlsAddXdyAlphabet}
  \fi

```

This code is only required for xindy:

```

\ifglsxindy

```

`\@gls@xdy@locationlist` List of predefined location names.

```

\newcommand*\@gls@xdy@locationlist{%
  roman-page-numbers,%
  Roman-page-numbers,%
  arabic-page-numbers,%
  alpha-page-numbers,%
  Alpha-page-numbers,%
  Appendix-page-numbers,%
  arabic-section-numbers%
}

```

Each location class *<name>* has the format stored in `\@gls@xdy@Lclass@<name>`. Set up predefined formats.

`\@Lclass@roman-page-numbers` Lower case Roman numerals (i, ii, ...). In the event that `\roman` has been redefined to produce a fancy form of roman numerals, attempt to work out how it will be written to the output file.

```

\protected@edef\@gls@roman{\@roman{0}\string"
  \string"roman-numbers-lowercase\string" :sep \string"}%
\@onelevel@sanitize\@gls@roman
\edef\@gls@tmp{\string" \string"roman-numbers-lowercase\string"
  :sep \string"}%
\@onelevel@sanitize\@gls@tmp
\ifx\@gls@tmp\@gls@roman
  \expandafter

```

```

        \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
            \string"roman-numbers-lowercase\string"%
        }%
    \else
        \expandafter
        \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{
            :sep \string"\@gls@roman\string"%
        }%
    \fi

\y@Lclass@Roman-page-numbers Upper case Roman numerals (I, II, ...).
    \expandafter\def\csname @gls@xdy@Lclass@Roman-page-numbers\endcsname{%
        \string"roman-numbers-uppercase\string"%
    }%

\@Lclass@arabic-page-numbers Arabic numbers (1, 2, ...).
    \expandafter\def\csname @gls@xdy@Lclass@arabic-page-numbers\endcsname{%
        \string"arabic-numbers\string"%
    }%

\y@Lclass@alpha-page-numbers Lower case alphabetical (a, b, ...).
    \expandafter\def\csname @gls@xdy@Lclass@alpha-page-numbers\endcsname{%
        \string"alpha\string"%
    }%

\y@Lclass@Alpha-page-numbers Upper case alphabetical (A, B, ...).
    \expandafter\def\csname @gls@xdy@Lclass@Alpha-page-numbers\endcsname{%
        \string"ALPHA\string"%
    }%

\class@Appendix-page-numbers Appendix style locations (e.g. A-1, A-2, ..., B-1, B-2, ...). The separator is
given by \@glsAlphacompositor.
    \expandafter\def\csname @gls@xdy@Lclass@Appendix-page-numbers\endcsname{%
        \string"ALPHA\string"
        :sep \string"\@glsAlphacompositor\string"
        \string"arabic-numbers\string"%
    }

\class@arabic-section-numbers Section number style locations (e.g. 1.1, 1.2, ...). The compositor is given by
\glscompositor.
    \expandafter\def\csname @gls@xdy@Lclass@arabic-section-numbers\endcsname{%
        \string"arabic-numbers\string"
        :sep \string"\glscompositor\string"
        \string"arabic-numbers\string"%
    }%

\@xdyuserlocationdefs List of additional location definitions (separated by ^^J)
    \def\@xdyuserlocationdefs{}

```

`\@xdyuserlocationnames` List of additional user location names

```
\def\@xdyuserlocationnames{}
```

End of xindy-only block:

```
\fi
```

`\@xdycrossrefhook` Hook used after writing cross-reference class information.

```
\ifglxindy
\newcommand\@xdycrossrefhook{}
\fi
```

`\GlsAddXdyLocation` `\GlsAddXdyLocation[<prefix-loc>]{<name>}{<definition>}` Define a new location called *<name>*. The definition must use xindy syntax. (Note that this doesn't check to see if the location is already defined. That is left to xindy to complain about.)

```
\ifglxindy
\newcommand*\GlsAddXdyLocation}[3][{}]{%
\def\@gls@tmp{#1}%
\ifx\@gls@tmp\@empty
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep \string"{}\glsopenbrace\string" #3
:sep \string"\glsclosebrace\string"))
}%
\else
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep "\glsopenbrace"
#1
:sep "\glsclosebrace\glsopenbrace" #3
:sep "\glsclosebrace"))
}%
\fi

\edef\@xdyuserlocationnames{%
\@xdyuserlocationnames^^J\space\space\space
\string"#2\string"}%
}
```

Only has an effect before `\writeist`:

```
\@onlypremakeg\GlsAddXdyLocation
\else
\newcommand*\GlsAddXdyLocation}[2]{%
\glsnoxindywarning\GlsAddXdyLocation}
\fi
```

`\@xdylocationclassorder` Define location class order

```

\ifglxindy
\def\@xdylocationclassorder{^^J\space\space\space
\string"roman-page-numbers\string"^^J\space\space\space
\string"arabic-page-numbers\string"^^J\space\space\space
\string"arabic-section-numbers\string"^^J\space\space\space
\string"alpha-page-numbers\string"^^J\space\space\space
\string"Roman-page-numbers\string"^^J\space\space\space
\string"Alpha-page-numbers\string"^^J\space\space\space
\string"Appendix-page-numbers\string"
\@xdyuserlocationnames^^J\space\space\space
\string"see\string"
}
\fi

```

Change the location order.

`\GlsSetXdyLocationClassOrder`

```

\ifglxindy
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\def\@xdylocationclassorder{#1}}
\else
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\glsnoxywarning\GlsSetXdyLocationClassOrder}
\fi

```

`\@xdysortrules` Define sort rules

```

\ifglxindy
\def\@xdysortrules{}
\fi

```

`\GlsAddSortRule` Add a sort rule

```

\ifglxindy
\newcommand*\GlsAddSortRule[2]{%
\expandafter\toks@\expandafter{\@xdysortrules}%
\protected@edef\@xdysortrules{\the\toks@ ^^J
(sort-rule \string"#1\string" \string"#2\string")}%
}
\else
\newcommand*\GlsAddSortRule[2]{%
\glsnoxywarning\GlsAddSortRule}
\fi

```

`\@xdyrequiredstyles` Define list of required styles (this should be a comma-separated list of xindy styles)

```

\ifglxindy
\def\@xdyrequiredstyles{tex}
\fi

```

`\GlsAddXdyStyle` Add a xindy style to the list of required styles


```

\ifglxindy
  \newcommand*\GlsAddXdyStyle[1]{%
    \edef\@xdyrequiredstyles{\@xdyrequiredstyles,#1}}%
\else
  \newcommand*\GlsAddXdyStyle[1]{%
    \glsnoxindywarning\GlsAddXdyStyle}
\fi

```

`\GlsSetXdyStyles` Reset the list of required styles

```

\ifglxindy
  \newcommand*\GlsSetXdyStyles[1]{%
    \edef\@xdyrequiredstyles{#1}}
\else
  \newcommand*\GlsSetXdyStyles[1]{%
    \glsnoxindywarning\GlsSetXdyStyles}
\fi

```

`\findrootlanguage` The command `\findrootlanguage` was used to determine the root language, using a bit of trickery. This has been deferred to `tracklang`. Removed in v4.50.

`\@xdylanguage` The xindy language setting is required by `makeglossaries`, so provide a command for `makeglossaries` to pick up the information from the auxiliary file. This command is not needed by the `glossaries` package, so define it to ignore its arguments.

```

\def\@xdylanguage#1#2{}

```

`\GlsSetXdyLanguage` Define a command that allows the user to set the language for a given glossary type. The first argument indicates the glossary type. If omitted the main glossary is assumed. This uses the unstarred form of `\ifglossaryexists` because ignored glossaries can't be used with xindy.

```

\ifglxindy
  \newcommand*\GlsSetXdyLanguage[2][\glsdefaulttype]{%
    \ifglossaryexists{#1}{%
      \expandafter\def\csname @xdy@#1@language\endcsname{#2}%
    }{%
      \PackageError{glossaries}{Can't set language type for
        glossary type '#1' --- no such glossary}{%
        You have specified a glossary type that doesn't exist}}
\else
  \newcommand*\GlsSetXdyLanguage[2][]{%
    \glsnoxindywarning\GlsSetXdyLanguage}
\fi

```

`\@gls@codepage` The xindy codepage setting is required by `makeglossaries`, so provide a command for `makeglossaries` to pick up the information from the auxiliary file. This command is not needed by the `glossaries` package, so define it to ignore its arguments.

```

\def\@gls@codepage#1#2{}

```

`\GlsSetXdyCodePage` Define command to set the code page.

```
\ifglxindy
  \newcommand*\GlsSetXdyCodePage}[1]{%
    \renewcommand*\gls@codepage}{#1}%
  }
```

Suggested by egreg:

```
\AtBeginDocument{%
  \ifx\gls@codepage\empty
    \ifpackageloaded{fontspec}{\def\gls@codepage{utf8}}{}%
  \fi
}
\else
  \newcommand*\GlsSetXdyCodePage}[1]{%
    \glsnoxywarning\GlsSetXdyCodePage}
\fi
```

`\@xdylettergroups` Store letter group definitions.

```
\ifglxindy
  \ifglxindy@glsnumbers
    \def\@xdylettergroups{(define-letter-group
      \string\glsnumbers\string^^J\space\space\space
      :prefixes (\string"0\string" \string"1\string"
        \string"2\string" \string"3\string" \string"4\string"
        \string"5\string" \string"6\string" \string"7\string"
        \string"8\string" \string"9\string")^^J\space\space\space
      \@xdynumbergrouporder)}
  \else
    \def\@xdylettergroups{}
  \fi
\fi
```

`\GlsAddLetterGroup` Add a new letter group. The first argument is the name of the letter group. The second argument is the xindy code specifying prefixes and ordering.

```
\newcommand*\GlsAddLetterGroup[2]{%
  \expandafter\toks@\expandafter{\@xdylettergroups}%
  \protected@edef\@xdylettergroups{\the\toks@^^J%
    (define-letter-group \string"#1\string"^^J\space\space\space#2)}%
  }%
```

2.5 Loops and conditionals

`\forallglossaries` To iterate through all glossaries (or comma-separated list of glossary names given in optional argument) use:

```
\forallglossaries[glossary list]{cmd}{code}
```

where `<cmd>` is a control sequence which will be set to the name of the glossary in the current iteration.

```
\newcommand*\forallglossaries}[3][\@glo@types]{%
  \@for#2:=#1\do{\ifx#2\@empty\else#3\fi}%
}
```

`\forallacronyms`

```
\newcommand*\forallacronyms}[2]{%
  \@for#1:=\@glsacronymlists\do{\ifx#1\@empty\else#2\fi}%
}
```

`\forallglsentries` To iterate through all entries in a given glossary use:

```
\forallglsentries[<type>]{<cmd>}{<code>}
```

where *<type>* is the glossary label and *<cmd>* is a control sequence which will be set to the entry label in the current iteration.

```
\newcommand*\forallglsentries}[3][\glsdefaulttype]{%
  \protected@edef\@glo@list{\csname glist@#1\endcsname}%
  \@for#2:=\@glo@list\do
  {%
    \ifdefempty{#2}{#3}%
  }%
}
```

`\forallglsentries` To iterate through all glossary entries over all glossaries listed in the optional argument (the default is all glossaries) use:

```
\forallglsentries[<glossary list>]{<cmd>}{<code>}
```

Within `\forallglsentries`, the current glossary type is given by `\@this@glo@`.

```
\newcommand*\forallglsentries}[3][\@glo@types]{%
  \expandafter\forallglossaries\expandafter[#1]{\@this@glo@}%
  {%
    \forallglsentries[\@this@glo@]{#2}{#3}%
  }%
}
```

`\ifglossaryexists` To check to see if a glossary exists use:

```
\ifglossaryexists{<type>}{<true-text>}{<false-text>}
```

where *<type>* is the glossary's label. The unstarred form will do *<false-text>* for ignored glossaries. The starred form will do *<true-text>* for ignored glossaries.

```
\newcommand*\ifglossaryexists{%
  \@ifstar\s@ifglossaryexists\@ifglossaryexists
}
```

`\@ifglossaryexists` Unstarred form only tests the existence of non-ignored glossaries.

```
\newcommand{\@ifglossaryexists}[3]{%
  \ifcsundef{@glotype@#1@out}{#3}{#2}%
}
```

`\s@ifglossaryexists` Starred form includes ignored glossaries.

```
\newcommand{\s@ifglossaryexists}[3]{%
  \ifcsundef{glolist@#1}{#3}{#2}%
}
```

Since the label is used to form the name of control sequences, by default UTF8 etc characters can't be used in the label. A possible workaround is to use `\scantokens`, but commands such as `\glentrytext` will no longer be usable in sectioning, caption etc commands. If the user really wants to be able to construct a label with UTF8 characters, allow them the means to do so (but on their own head be it, if they then use entries in `\section` etc). This can be done via:

```
%\renewcommand*{\glsdetoklabel}[1]{\scantokens{#1\noexpand}}
%
```

(Note, don't use `\detokenize` or it will cause commands like `\glsaddall` to fail.) Since redefining `\glsdetoklabel` can cause things to go badly wrong, I'm not going to mention it in the main user guide. Only advanced users who know what they're doing ought to attempt it.

`\glsdetoklabel`

```
\newcommand*{\glsdetoklabel}[1]{#1}
```

`\ifglentryexists` To check to see if a glossary entry has been defined use:

```
\ifglentryexists{<label>}{<true text>}{<>false text>}
```

where *<label>* is the entry's label.

```
\newcommand{\ifglentryexists}[3]{%
  \ifcsundef{glo@\glsdetoklabel{#1}@name}{#3}{#2}%
}
```

`\ifglsused` To determine if given glossary entry has been used in the document text yet use:

```
\ifglsused{<label>}{<true text>}{<>false text>}
```

where *<label>* is the entry's label. If true it will do *<true text>* otherwise it will do *<>false text>*.

```
\newcommand*{\ifglsused}[3]{%
  \ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}%
}
```

The following two commands will cause an error if the given condition fails:

`\glsdoifexists` `\glsdoifexists{<label>}{<code>}`

Generate an error if entry specified by *<label>* doesn't exist, otherwise do *<code>*.

```
\newcommand{\glsdoifexists}[2]{%
  \ifglsentryexists{#1}{#2}{%
    \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
      has not been defined}{You need to define a glossary entry before you
      can use it.}}%
}
```

`\glsdoifnoexists` `\glsdoifnoexists{<label>}{<code>}`

The opposite: only do second argument if the entry doesn't exist. Generate an error message if it exists.

```
\newcommand{\glsdoifnoexists}[2]{%
  \ifglsentryexists{#1}{%
    \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’ has already
      been defined}{}}{#2}%
}
```

`\glsdoifexistsorwarn` `\glsdoifexistsorwarn{<label>}{<code>}`

Generate a warning if entry specified by *<label>* doesn't exist, otherwise do *<code>*.

```
\newcommand{\glsdoifexistsorwarn}[2]{%
  \ifglsentryexists{#1}{#2}{%
    \GlossariesWarning{Glossary entry ‘\glsdetoklabel{#1}’
      has not been defined}%
  }%
}
```

`\glsdoifexistsordo` `\glsdoifexistsordo{<label>}{<code>}{<undef code>}`

Generate an error and do *<undef code>* if entry specified by *<label>* doesn't exist, otherwise do *<code>*.

```
\newcommand{\glsdoifexistsordo}[3]{%
  \ifglsentryexists{#1}{#2}{%
    \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
      has not been defined}{You need to define a glossary entry before you
      can use it.}}%
  #3%
}%
}
```

`\doifglossarynoexistsordo`

```
\doifglossarynoexistsordo{<label>}{<code>}{<else code>}
```

If glossary given by *<label>* doesn't exist do *<code>* otherwise generate an error and do *<else code>*.

```
\newcommand{\doifglossarynoexistsordo}[3]{%
  \ifglossaryexists*{#1}%
  {%
    \PackageError{glossaries}{Glossary type '#1' already exists}{}%
    #3%
  }%
  {#2}%
}
```

`\ifglshaschildren`

```
\ifglshaschildren{<label>}{<true part>}{<false part>}
```

This is inefficient as it has to search through all entries to find out which ones have the given entry as its parent. It's much easier to use `bib2gls` and get it to store the list of children that have been indexed (which is likely to be more useful).

```
\newrobustcmd{\ifglshaschildren}[3]{%
  \glsdoifexists{#1}%
  {%
    \def\do@glshaschildren{#3}%

    \protected@edef\@gls@thislabel{\glsdetoklabel{#1}}%
    \expandafter\for@gl@entries\expandafter
    [\csname glo@\@gls@thislabel @type\endcsname]
    {\glo@label}%
    {%
      \letcs@glo@parent{glo@\glo@label @parent}%
      \ifdefequal\@gls@thislabel\glo@parent
      {%
        \def\do@glshaschildren{#2}%
        \@endfortrue
      }%
    }%
  }%
  \do@glshaschildren
}
```

`\ifglshasparent`

```
\ifglshasparent{<label>}{<true part>}{<false part>}
```

```
\newcommand{\ifglshasparent}[3]{%
```

```

\glsdoifexists{#1}%
{%
  \ifcsemtyp{glo@glstetoklabel{#1}@parent}{#3}{#2}%
}%
}

\ifglshasdesc \ifglshasdesc{<label>}{<true part>}{<false part>}
\newcommand*{\ifglshasdesc}[3]{%
  \ifcsemtyp{glo@glstetoklabel{#1}@desc}%
  {#3}%
  {#2}%
}

\ifglsdescsuppressed \ifglsdescsuppressed{<label>}{<true part>}{<false part>} Does <true part> if
the description is just \nopostdesc otherwise does <false part>.
\newcommand*{\ifglsdescsuppressed}[3]{%
  \ifcsequal{glo@glstetoklabel{#1}@desc}{@no@post@desc}%
  {#2}%
  {#3}%
}

\ifglshassymbol \ifglshassymbol{<label>}{<true part>}{<false part>}
\newrobustcmd*{\ifglshassymbol}[3]{%
  \letcs{\@glo@symbol}{glo@glstetoklabel{#1}@symbol}%
  \ifdefempty\@glo@symbol
  {#3}%
  {%
    \ifdefequal\@glo@symbol\@gls@default@value
    {#3}%
    {#2}%
  }%
}

\ifglshaslong \ifglshaslong{<label>}{<true part>}{<false part>}
\newrobustcmd*{\ifglshaslong}[3]{%
  \letcs{\@glo@long}{glo@glstetoklabel{#1}@long}%
  \ifdefempty\@glo@long
  {#3}%
  {%
    \ifdefequal\@glo@long\@gls@default@value
    {#3}%
    {#2}%
  }%
}

\ifglshasshort \ifglshasshort{<label>}{<true part>}{<false part>}
\newrobustcmd*{\ifglshasshort}[3]{%
  \letcs{\@glo@short}{glo@glstetoklabel{#1}@short}%
  \ifdefempty\@glo@short

```

```

    {#3}%
    {%
      \ifdefequal\@glo@short\@gls@default@value
        {#3}%
        {#2}%
      }%
    }
  }
}

```

```

\ifglsfieldvoid{<field>}{<label>}{<true part>}{<false
part>}

```

\ifglsfieldvoid

Provide an expandable way of testing if a field is undefined or empty.

```

\newcommand\ifglsfieldvoid[4]{\ifcvoid{glo@glsetoklabel{#2}@#1}{#3}{#4}}

```

```

\ifglsfield{<field>}{<label>}{<true part>}{<false
part>}

```

\ifglsfield

```

\newrobustcmd*\ifglsfield[4]{%
  \glsdoifexists{#2}%
  {%
    \letcs{\@glo@thisvalue}{glo@glsetoklabel{#2}@#1}%

```

First check supplied field label is defined.

```

  \ifdef\@glo@thisvalue
    {%

```

Is defined, so now check if empty.

```

      \ifdefempty\@glo@thisvalue
        {%

```

Is empty, so doesn't have field set.

```

          #4%
        }%
      }%
    }%

```

Not empty, so check if set to \@gls@default@value

```

      \ifdefequal\@glo@thisvalue\@gls@default@value
        {%

```

Value is set to the default value.

```

          #4%
        }%
      }%
    }%

```

Non-empty, non-default value. Allow user to access this value through \glscurrentfieldvalue.

```

      \let\glscurrentfieldvalue\@glo@thisvalue
    }%
  }%
}

```



```

        #3%
      }%
    }%
  }%
  {%

```

Field given isn't defined, so check if mapping exists.

```

    \gls@fetchfield{\gls@thisfield}{#1}%

```

If `\gls@thisfield` is defined, we've found a map. If not, the field supplied doesn't exist.

```

    \ifdef\gls@thisfield
    {%

```

Is defined, so now check if empty.

```

        \letcs{\glo@thisvalue}{glo\glsdetoklabel{#2}\gls@thisfield}%
        \ifdefempty\glo@thisvalue
        {%

```

Is empty so field hasn't been set.

```

        #4%
      }%
    {%

```

Isn't empty so check if it's been set to `\gls@default@value`.

```

        \ifdefequal\glo@thisvalue\gls@default@value
        {%

```

Value is set to the default value.

```

        #4%
      }%
    {%

```

Non-empty, non-default value. Allow user to access this value through `\glscurrentfieldvalue`.

```

        \let\glscurrentfieldvalue\glo@thisvalue
        #3%
      }%
    }%
  }%
  {%

```

Not defined.

```

        \GlossariesWarning{Unknown entry field '#1'}%
        #4%
      }%
    }%
  }%
}

```

`\glscurrentfieldvalue`

```

\newcommand*{\glscurrentfieldvalue}{}

```

2.6 Defining new glossaries

A comma-separated list of glossary names is stored in `\@glo@types`. When a new glossary type is created, its identifying name is added to this list. This is used by commands that iterate through all glossaries (such as `\makeglossaries` and `\printglossaries`).

`\@glo@types`

```
\newcommand*\@glo@types{,}
```

`\@gls@provide@newglossary` If the user removes the glossary package from their document, ensure the next run doesn't throw a load of undefined control sequence errors when the aux file is parsed.

```
\newcommand*\@gls@provide@newglossary{%
  \protected@write\@auxout{}\string\providecommand\string\@newglossary[4]{}%
}
```

Only need to do this once.

```
\let\@gls@provide@newglossary\relax
}
```

`\@gls@defaulttype`

```
\newcommand*\@gls@defaulttype{\glsdefaulttype}
```

`\defglsentryfmt` Allow different glossaries to have different display styles.

```
\newcommand*\defglsentryfmt[2][\glsdefaulttype]{%
  \protected@edef\@glo@tmp{#1}%
  \ifx\@glo@tmp\@gls@defaulttype
```

Argument was `\glsdefaulttype` but it hasn't expanded, which probably means `nomain` was used and no alternative glossary has been defined.

```
  \GlossariesWarning{\string\defglsentryfmt\space attempting to set
    a display style for \string\glsdefaulttype\space but there
    doesn't seem to be a default glossary. If you have used
    'nomain', you need to define an alternative glossary}%
  \else
    \csgdef{gls@\@glo@tmp @entryfmt}{#2}%
  \fi
}
```

`\gls@doentryfmt`

```
\newcommand*\gls@doentryfmt[1]{\csuse{gls@#1@entryfmt}}
```

`\@gls@forbidtextext` As a security precaution, don't allow the user to specify a 'tex' extension for any of the glossary files. (Just in case a seriously confused novice user doesn't know what they're doing.) The argument must be a control sequence whose replacement text is the requested extension.

```
\newcommand*\@gls@forbidtextext[1]{%
  \ifboolexpr{test {\ifdefstring{#1}{tex}}
    or test {\ifdefstring{#1}{TEX}}}
```

```

{%
  \def#1{nottex}%
  \PackageError{glossaries}%
  {Forbidden '.tex' extension replaced with '.nottex'}%
  {I'm sorry, I can't allow you to do something so reckless.\MessageBreak
  Don't use '.tex' as an extension for a temporary file.}%
}%
{%
}%
}

```

`\gls@gobbleopt` Discard optional argument.

```

\newcommand*\gls@gobbleopt{\new@ifnextchar[{\@gls@gobbleopt}{}]}
\def\@gls@gobbleopt[#1]{}

```

A new glossary type is defined using `\newglossary`. Syntax:

```

\newglossary[log-ext]{name}[in-ext]{out-ext}
{title}[counter]

```

where *log-ext* is the extension of the `makeindex` transcript file, *in-ext* is the extension of the glossary input file (read in by `\printglossary` and created by `makeindex`), *out-ext* is the extension of the glossary output file which is read in by `makeindex` (lines are written to this file by the `\glossary` command), *title* is the title of the glossary that is used in `\glossarysection` and *counter* is the default counter to be used by entries belonging to this glossary. The `makeglossaries` Perl script reads in the relevant extensions from the auxiliary file, and passes the appropriate file names and switches to `makeindex`.

`\newglossary`

```

\newcommand*\newglossary{\@ifstar\s@newglossary\ns@newglossary}

```

`\s@newglossary` The starred version will construct the extension based on the label.

```

\newcommand*\s@newglossary}[2]{%
  \ns@newglossary[#1-glg]{#1}{#1-gls}{#1-glo}{#2}%
}

```

`\ns@newglossary` Define the unstarred version.

```

\newcommand*\ns@newglossary}[5][glg]{%
  \doifglossarynoexistsordo{#2}%
  {%

```

Check if default has been set

```

  \ifundef\glsdefaultttype
  {%
    \gdef\glsdefaultttype{#2}%
  }{}%

```

Add this to the list of glossary types:

```
\toks@{#2}\protected@edef\@glo@types{\@glo@types\the\toks@,}%
```

Define a comma-separated list of labels for this glossary type, so that all the entries for this glossary can be reset with a single command. When a new entry is created, its label is added to this list.

```
\expandafter\gdef\csname glolist@#2\endcsname{,}%
```

Store the file extensions:

```
\expandafter\edef\csname @glotype@#2@log\endcsname{#1}%
\expandafter\edef\csname @glotype@#2@in\endcsname{#3}%
\expandafter\edef\csname @glotype@#2@out\endcsname{#4}%
\expandafter\@gls@forbidtextext\csname @glotype@#2@log\endcsname
\expandafter\@gls@forbidtextext\csname @glotype@#2@in\endcsname
\expandafter\@gls@forbidtextext\csname @glotype@#2@out\endcsname
```

Store the title:

```
\expandafter\def\csname @glotype@#2@title\endcsname{#5}%
\@gls@provide@newglossary
\protected@write\@auxout{\string\@newglossary{#2}{#1}{#3}{#4}}%
```

How to display this entry in the document text (uses `\glsentry` by default). This can be redefined by the user later if required (see `\defglsentry`). This may already have been defined if this has been specified as a list of acronyms.

```
\ifcsundef{gls@#2@entryfmt}%
{%
  \defglsentryfmt[#2]{\glsentryfmt}%
}%
{}
```

Define sort counter if required:

```
\@gls@defsortcount{#2}%
```

Find out if the final optional argument has been specified, and use it to set the counter associated with this glossary. (Uses `\glscounter` if no optional argument is present.)

```
\@ifnextchar[{\@gls@setcounter{#2}}%
  {\@gls@setcounter{#2}[\glscounter]}%
}%
{%
  \gls@gobbleopt
}%
}
```

`\altnewglossary`

```
\newcommand*{\altnewglossary}[3]{%
  \newglossary[#2-glg]{#1}{#2-gls}{#2-glo}{#3}%
}
```

Only define new glossaries in the preamble:

```
\@onlypreamble{\newglossary}
```

Only define new glossaries before `\makeglossaries`

```
\onlypremakeg\newglossary
```

`\newglossary` is used to specify the file extensions for the `makeindex` input, output and transcript files. It is written to the auxiliary file by `\newglossary`. Since it is not used by L^AT_EX, `\newglossary` simply ignores its arguments.

```
\@newglossary
```

```
\newcommand*{\@newglossary}[4]{}
```

Store counter to be used for given glossary type (the first argument is the glossary label, the second argument is the name of the counter):

```
\@gls@setcounter
```

```
\def\@gls@setcounter#1[#2]{%  
  \expandafter\def\csname @gls@type@#1@counter\endcsname{#2}%
```

Add counter to xindy list, if not already added:

```
  \ifglxindy  
    \GlsAddXdyCounters{#2}%  
  \fi  
}
```

Get counter associated with given glossary (the argument is the glossary label):

```
\@gls@getcounter
```

```
\newcommand*{\@gls@getcounter}[1]{%  
  \csname @gls@type@#1@counter\endcsname  
}
```

Define the main glossary. This will be the first glossary to be displayed when using `\printglossaries`.

```
\glsdefmain
```

Define the “acronym” glossaries if required.

```
\@gls@do@acronymsdef
```

Define the “symbols”, “numbers” and “index” glossaries if required.

```
\@gls@do@symbolsdef  
\@gls@do@numbersdef  
\@gls@do@indexdef
```

`\newignoredglossary` Creates a new glossary that doesn’t have associated files. This glossary is ignored by any commands that iterate over glossaries, such as `\printglossaries`, and won’t work with commands like `\printglossary`. It’s intended for entries that are so commonly-known they don’t require a glossary.

```
\newcommand*{\newignoredglossary}[1]{%  
  \ifdefempty\@ignored@glossaries  
  {%  
    \protected@edef\@ignored@glossaries{#1}%  
  }%
```

```

{%
  \protected@eappto\@ignored@glossaries{,#1}%
}%
\csgdef{glolist@#1}{,}%
\ifcsundef{gls@#1@entryfmt}%
{%
  \defglsentryfmt[#1]{\glsentryfmt}%
}%
}%
\ifdefempty\@gls@nohyperlist
{%
  \renewcommand*\@gls@nohyperlist{#1}%
}%
{%
  \protected@eappto\@gls@nohyperlist{,#1}%
}%
}

```

`\@ignored@glossaries` List of ignored glossaries.

```
\newcommand*\@ignored@glossaries{}
```

`\ifignoredglossary` Tests if the given glossary is an ignored glossary. Expansion is used in case the first argument is a control sequence.

```

\newcommand*\ifignoredglossary[3]{%
  \protected@edef\@gls@igtype{#1}%
  \expandafter\DTLifinlist\expandafter
  {\@gls@igtype}{\@ignored@glossaries}{#2}{#3}%
}

```

2.7 Defining new entries

New glossary entries are defined using `\newglossaryentry`. This command requires a label and a key-value list that defines the relevant information for that entry. The definition for these keys follows. Note that the `name`, `description` and `symbol` keys will be sanitized later, depending on the value of the package option `sanitize` (this means that if some of the keys haven't been defined, they can be constructed from the `name` and `description` key before they are sanitized).

name The `name` key indicates the name of the term being defined. This is how the term will appear in the glossary. The `name` key is required when defining a new glossary entry.

```

\define@key{glossentry}{name}{%
  \def\@glo@name{#1}%
}

```

description The `description` key is usually only used in the glossary, but can be made to appear in the text by redefining `\glsentryfmt` or using `\defglsentryfmt`. The

description key is required when defining a new glossary entry. If a long description is required, use `\longnewglossaryentry` instead of `\newglossaryentry`.

```
\define@key{glossentry}{description}{%  
\def\@glo@desc{#1}%  
}
```

`descriptionplural`

```
\define@key{glossentry}{descriptionplural}{%  
\def\@glo@descplural{#1}%  
}
```

`sort` The sort key needs to be sanitized here (the sort key is provided for `makeindex`'s benefit, not for use in the document). The sort key is optional when defining a new glossary entry. If omitted, the value is given by $\langle name \rangle \langle description \rangle$.

```
\define@key{glossentry}{sort}{%  
\def\@glo@sort{#1}}
```

`text` The text key determines how the term should appear when used in the document (i.e. outside of the glossary). If omitted, the value of the `name` key is used instead.

```
\define@key{glossentry}{text}{%  
\def\@glo@text{#1}%  
}
```

`plural` The plural key determines how the plural form of the term should be displayed in the document. If omitted, the plural is constructed by appending `\glspluralsuffix` to the value of the text key.

```
\define@key{glossentry}{plural}{%  
\def\@glo@plural{#1}%  
}
```

`first` The first key determines how the entry should be displayed in the document when it is first used. If omitted, it is taken to be the same as the value of the text key.

```
\define@key{glossentry}{first}{%  
\def\@glo@first{#1}%  
}
```

`firstplural` The `firstplural` key is used to set the plural form for first use, in the event that the plural is required the first time the term is used. If omitted, it is constructed by appending `\glspluralsuffix` to the value of the first key.

```
\define@key{glossentry}{firstplural}{%  
\def\@glo@firstplural{#1}%  
}
```

`\@gls@default@value`

```
\newcommand*{\@gls@default@value}{\relax}
```

`symbol` The `symbol` key is ignored by most of the predefined glossary styles, and defaults to `\relax` if omitted. It is provided for glossary styles that require an associated symbol, as well as a name and description. To make this value appear in the glossary, you need to redefine `\glossentry`. If you want this value to appear in the text when the term is used by commands like `\gls`, you will need to change `\glentryfmt` (or use for `\defglentryfmt` individual glossaries).

```
\define@key{glossentry}{symbol}{%
\def\@glo@symbol{#1}%
}
```

`symbolplural`

```
\define@key{glossentry}{symbolplural}{%
\def\@glo@symbolplural{#1}%
}
```

`type` The `type` key specifies to which glossary this entry belongs. If omitted, the default glossary is used.

```
\define@key{glossentry}{type}{%
\def\@glo@type{#1}}
```

`counter` The `counter` key specifies the name of the counter associated with this glossary entry:

```
\define@key{glossentry}{counter}{%
\ifcsundef{c@#1}%
{%
\PackageError{glossaries}%
{There is no counter called ‘#1’}%
{%
The counter key should have the name of a valid counter
as its value%
}%
}%
{%
\def\@glo@counter{#1}%
}%
}
```

`see` The `see` key specifies a list of cross-references

```
\define@key{glossentry}{see}{%
\gls@set@xr@key{see}{\@glo@see}{#1}%
}
```

```
\gls@set@xr@key{<key name>}{<cs>}{<value>}
```

`\gls@set@xr@key`

Assign a cross-reference key. This has a check for an empty value because with `glossaries-extra` and unrestricted document definitions, the `glsdefs` file may contain the cross-referencing fields set to empty.


```

\newcommand*\gls@set@xr@key}[3]{%
  \renewcommand*\gls@xr@key}{#1}%
  \ifstrempy{#3}{\def#2{}}%
  {%
    \gls@checkseeallowed
    \def#2{#3}%
    \@glo@seeautonumberlist
  }%
}

```

`\gls@xr@key`

```

\newcommand*\gls@xr@key}{see}

```

`\gls@checkseeallowed`

```

\newcommand*\gls@checkseeallowed){%
  \@gls@see@noindex
}

```

`checkseeallowed@preambleonly`

```

\newcommand*\gls@checkseeallowed@preambleonly){%
  \GlossariesWarning
  {'\gls@xr@key' key doesn't have any effect when used in the document
  environment. Move the definition to the preamble
  after \string\makeglossaries\space
  or \string\makenoidxglossaries}%
}

```

`parent` The parent key specifies the parent entry, if required.

```

\define@key{glossentry}{parent}{%
  \def\@glo@parent{#1}}

```

`nonumberlist` The nonumberlist key suppresses or activates the number list for the given entry.

```

\define@choicekey{glossentry}{nonumberlist}{%
  [\gls@nonumberlist@val\gls@nonumberlist@nr]{true,false}[true]%
  {%
    \ifcase\gls@nonumberlist@nr\relax
      \def\@glo@prefix{\glsnonextpages}%
      \@gls@savenonumberlist{true}%
    \else
      \def\@glo@prefix{\glsnextpages}%
      \@gls@savenonumberlist{false}%
    \fi
  }%
}

```

`\gls@noidx@nonumberlist` `\makenoidxglossaries` sets `\@gls@savenonumberlist` to this.

```

\newcommand*\gls@noidx@nonumberlist}[1]{%
  \cslet\@glo@\@glo@label @prenumberlist}\@glo@prefix
}%

```

```

\glsnoidxprenumberlist
    \newcommand{\glsnoidxprenumberlist}[1]{%
        \csuse{glo@glsdetoklabel{#1}@prenumberlist}}

\@gls@savenonumberlist The nonumberlist option isn't saved by default (as it just sets the prefix) which
isn't a problem when the entries are defined in the preamble, but causes a
problem when entries are defined in the document. In this case, the value needs
to be saved so that it can be written to the .glsdefs file.
    \newcommand*{\@gls@savenonumberlist}[1]{

\@gls@initnonumberlist
    \newcommand*{\@gls@initnonumberlist}{}%

\@gls@initnonumberlist
    \newcommand*{\@gls@storenonumberlist}[1]{

\@gls@enablesavenonumberlist Allow the nonumberlist value to be saved.
    \newcommand*{\@gls@enablesavenonumberlist}{%
        \renewcommand*{\@gls@initnonumberlist}{%
            \undef@glo@nonumberlist
        }%
        \renewcommand*{\@gls@savenonumberlist}[1]{%
            \def@glo@nonumberlist{##1}%
        }%
        \renewcommand*{\@gls@storenonumberlist}[1]{%
            \ifdef@glo@nonumberlist
            {%
                \cslet{glo@glsdetoklabel{##1}@nonumberlist}{\@glo@nonumberlist}%
            }%
            {}%
        }%
        \appto@gls@keymap{,{nonumberlist}{nonumberlist}}%
    }

    Define some generic user keys. (Additional keys can be added by the user.)

user1
    \define@key{glossentry}{user1}{%
        \def@glo@useri{#1}%
    }

user2
    \define@key{glossentry}{user2}{%
        \def@glo@userii{#1}%
    }

user3
    \define@key{glossentry}{user3}{%
        \def@glo@useriii{#1}%
    }

```

```

user4
  \define@key{glossentry}{user4}{%
    \def\@glo@useriv{#1}%
  }

user5
  \define@key{glossentry}{user5}{%
    \def\@glo@userv{#1}%
  }

user6
  \define@key{glossentry}{user6}{%
    \def\@glo@uservi{#1}%
  }

short This key is provided for use by \newacronym. It's not designed for general
purpose use, so isn't described in the user manual.
  \define@key{glossentry}{short}{%
    \def\@glo@short{#1}%
  }

shortplural This key is provided for use by \newacronym.
  \define@key{glossentry}{shortplural}{%
    \def\@glo@shortpl{#1}%
  }

long This key is provided for use by \newacronym.
  \define@key{glossentry}{long}{%
    \def\@glo@long{#1}%
  }

longplural This key is provided for use by \newacronym.
  \define@key{glossentry}{longplural}{%
    \def\@glo@longpl{#1}%
  }

\@glsnoname Define command to generate error if name key is missing.
  \newcommand*\@glsnoname{%
    \PackageError{glossaries}{name key required in
    \string\newglossaryentry\space for entry '\@glo@label'}{You
    haven't specified the entry name}}

\@glsnodesc Define command to generate error if description key is missing.
  \newcommand*\@glsnodesc{%
    \PackageError{glossaries}
    {%
      description key required in \string\newglossaryentry\space
      for entry '\@glo@label'%
    }
  }

```

```

    }%
    {%
    You haven't specified the entry description%
    }%
}%

```

`\glsdefaultplural` `\glsdefaultplural` was obsoleted in v3.10a (2013-10-13) and removed in v4.50.

`\gls@missingnumberlist` Define a command to generate warning when numberlist not set.

```

\newcommand*{\gls@missingnumberlist}[1]{%
  ??%
  \ifglssavenumberlist
    \GlossariesWarning{Missing number list for entry '#1'.
      Maybe makeglossaries + rerun required}%
  \else
    \PackageError{glossaries}%
    {Package option 'savenumberlist=true' required}%
    {%
      You must use the 'savenumberlist' package option
      to reference location lists.%
    }%
  \fi
}

```

`\glsdefaultsort` Define command to set default sort.

```

\newcommand*{\glsdefaultsort}{\@glo@name}

```

`\gls@level` Register to increment entry levels.

```

\newcount\gls@level

```

`\@gls@noexpand@field`

```

\newcommand{\@gls@noexpand@field}[3]{%
  \expandafter\global\expandafter
  \let\csname glo@#1@#2\endcsname#3%
}

```

`\@gls@noexpand@fields`

```

\newcommand{\@gls@noexpand@fields}[4]{%
  \ifcsdef{gls@assign@#3@field}
  {%
    \ifdefequal{#4}{\@gls@default@value}%
    {%
      \edef\@gls@value{\expandonce{#1}}%
      \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
    }%
  }%
  {%
    \csuse{gls@assign@#3@field}{#2}{#4}%
  }%
}

```

```

}%
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%

\@gls@noexpand@field{#2}{#3}{\@gls@value}%
}%
{%
\@gls@noexpand@field{#2}{#3}{#4}%
}%
}%
}

```

\@gls@expand@field

```

\newcommand{\@gls@expand@field}[3]{%
\expandafter
\protected@xdef\csname glo@#1@#2\endcsname{#3}%
}

```

@gls@expand@fields

```

\newcommand{\@gls@expand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%
\csuse{gls@assign@#3@field}{#2}{\@gls@value}%
}%
{%
\expandafter\@gls@startswithexpandonce#4\relax\relax\gls@endcheck
{%
\@gls@expand@field{#2}{#3}{#4}%
}%
{%
\csuse{gls@assign@#3@field}{#2}{#4}%
}%
}%
}%
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\@gls@expand@field{#2}{#3}{#1}%
}%
{%
\@gls@expand@field{#2}{#3}{#4}%
}%
}%
}

```

`\@gls@startswithexpandonce`

```
\def\@gls@expandonce{\expandonce}
\def\@gls@startswithexpandonce#1#2\gls@endcheck#3#4{%
  \def\@gls@tmp{#1}%
  \ifdefequal{\@gls@expandonce}{\@gls@tmp}{#3}{#4}%
}
```

```
\gls@assign@field{<def value>}{<label>}{<field>}{<tmp
cs>}
```

`\gls@assign@field`

Assigns an entry field. Expansion performed by default (except for name, symbol and description where backward compatibility required). If `<tmp cs>` is `<@gls@default@value>`, `<def value>` is used instead.

```
\let\gls@assign@field\@gls@expand@fields
```

`\glsexpandfields` Fully expand values when assigning fields (except for specific fields that are overridden by `\glssetnoexpandfield`).

```
\newcommand*{\glsexpandfields}{%
  \let\gls@assign@field\@gls@expand@fields
}
```

`\glsnoexpandfields` Don't expand values when assigning fields (except for specific fields that are overridden by `\glssetexpandfield`).

```
\newcommand*{\glsnoexpandfields}{%
  \let\gls@assign@field\@gls@noexpand@fields
}
```

`\newglossaryentry` Define `\newglossaryentry {<label>}{<key-val list>}`. There are two required fields in `<key-val list>`: name (or parent) and description. (See above.)

```
\newrobustcmd{\newglossaryentry}[2]{%
```

Check to see if this glossary entry has already been defined:

```
\glsdoifnoexists{#1}%
  {%
    \gls@defglossaryentry{#1}{#2}%
  }%
}
```

`\gls@defdocnewglossaryentry` The definition of `\newglossaryentry` is changed at the start of the document environment. As from v4.47 the see key now works in the document environment.

```
\newcommand*{\gls@defdocnewglossaryentry}{%
  \let\newglossaryentry\new@glossaryentry
}
```

`\provideglossaryentry` Like `\newglossaryentry` but does nothing if the entry has already been defined.

```

\newrobustcmd{\provideglossaryentry}[2]{%
  \ifglentryexists{#1}%
  {}%
  {%
    \gls@defglossaryentry{#1}{#2}%
  }%
}
\@onlypreamble{\provideglossaryentry}

```

`\gls@glsdefs@labellist` List of labels of entries defined in `.glsdefs` file.

```
\newcommand*{\gls@glsdefs@labellist}{}
```

`\gls@glsdefs@addlabel` Save label of entry defined in `.glsdefs` file.

```
\newcommand*{\gls@glsdefs@addlabel}[1]{\listxadd{\gls@glsdefs@labellist}{#1}}
```

`\gls@docdef@labellist` List of labels of entries defined in the document environment.

```
\newcommand*{\gls@docdef@labellist}{}
```

`\gls@docdef@addlabel` Save label of entry defined in the document environment.

```
\newcommand*{\gls@docdef@addlabel}[1]{\listxadd{\gls@docdef@labellist}{#1}}
```

`\new@glossaryentry` For use in document environment. This opens the `.glsdefs` file, if not already open, so that the entry definition can be saved for the next L^AT_EX run. This means that any glossaries at the start of the document can access the entry information.

```

\newrobustcmd{\new@glossaryentry}[2]{%
  \ifundef\@gls@deffile
  {%
    \global\newwrite\@gls@deffile
    \immediate\openout\@gls@deffile=\jobname.glsdefs
  }%
  {}%
}

```

Don't check for existence since if the entry has been defined in the `.glsdefs` it will need to be redefined in case the entry has been updated, but keep track of which entries have been defined in the document environment to prevent duplicate definitions.

```

\ifglentryexists{#1}%
{%
  \xifinlist{#1}{\gls@docdef@labellist}%
  {%

```

This entry has already been defined in the document environment.

```

  \GlossariesWarning{Entry ‘#1’ has already been defined in the
    document environment (ignoring new definition)}%
  }%
  {}%
  \xifinlist{#1}{\gls@glsdefs@labellist}%
  {%

```

This entry was defined in the `.glsdefs` file so update the definition in case it has been changed.

```
\gls@defglossaryentry{#1}{#2}%
\gls@docdef@addlabel{#1}%
\@gls@writedef{#1}%
}%
{%
```

This entry wasn't defined in the `.glsdefs` file so it must have been defined in the preamble.

```
\GlossariesWarning{Entry '#1' has already been defined in
the preamble (in which case remove the duplicate definition)
or you have just updated to glossaries.sty
v4.47 (in which case delete '\jobname.glsdefs')}%
}%
}%
}%
{%
```

This entry hasn't been defined (new entry since last build).

```
\gls@defglossaryentry{#1}{#2}%
\gls@docdef@addlabel{#1}%
\@gls@writedef{#1}%
}%
}
```

At the start of the document input the `.glsdefs` file if it exists. This is now done by `\gls@begindocdefs`, which is redefined by `glossaries-extra`, so that this step can be skipped to avoid loading an obsolete `.glsdefs` file if the user switches to `glossaries-extra` with `docdef=restricted`.

```
\AtBeginDocument{\gls@begindocdefs}
```

The end of the document needs to check if the `.glsdefs` file has been opened, in which case it needs to be closed.

```
\AtEndDocument{\ifdef\@gls@deffile{\closeout\@gls@deffile}{}}
```

`\gls@begindocdefs` Input the `.glsdefs` file if it exists and enable document definitions if permitted.

```
\newcommand*{\gls@begindocdefs}{%
\@gls@enablesavenonumberlist
\edef\@gls@restreat{\noexpand\catcode'\noexpand\@=\number\catcode'\@relax}%
\makeatletter
\InputIfFileExists{\jobname.glsdefs}{}{}%
\@gls@restreat
\undef\@gls@restreat
\gls@defdocnewglossaryentry
}
```

`\glsdefs@newdocentry` Used to define entries in the `.glsdefs` file.

```
\newcommand*{\glsdefs@newdocentry}[2]{%
\ifglsentryexists{#1}%
```



```

{\GlossariesWarning{entry ‘#1’ has already been defined in the preamble
  (if you have moved the definition there from the document
  environment, delete \jobname.glsdefs)}}%
{%
  \gls@glsdefs@addlabel{#1}%
  \gls@defglossaryentry{#1}{#2}%
}%
}

```

`\gls@writedef` Writes glossary entry definition to `\gls@deffile`. Allow for the possibility that the entry definition may have been moved from the document environment to the preamble, so warn rather than generate an error.

```

\newcommand*{\gls@writedef}[1]{%
  \immediate\write\gls@deffile
  {%
    \string\glsdefs@newdocentry{\glsdetoklabel{#1}}\glspercentchar^^J%
    \expandafter@gobble\string\{\glspercentchar%
  }%
}

```

Write key value information:

```

\@for\gls@map:=\gls@keymap\do
{%
  \letcs@glo@value{glo@\glsdetoklabel{#1}}\expandafter\@secondoftwo\gls@map}%
  \ifdef@glo@value
  {%
    \@onelevel@sanitize@glo@value
    \immediate\write\gls@deffile
    {%
      \expandafter\@firstoftwo\gls@map
      =\expandafter@gobble\string\{\glo@value\expandafter@gobble\string\},%
      \glspercentchar
    }%
  }%
  }%
  {}%
}%

```

Provide hook:

```

\gls@writedefhook
\immediate\write\gls@deffile
{%
  \glspercentchar^^J%
  \expandafter@gobble\string\}\glspercentchar^^J%
}%
}

```

`\gls@keymap` List of entry definition key names and corresponding tag in control sequence used to store the value.

```

\newcommand*{\gls@keymap}{%
  {name}{name},%
  {sort}{sortvalue},% unescaped sort value
}

```

```

{type}{type},%
{first}{first},%
{firstplural}{firstpl},%
{text}{text},%
{plural}{plural},%
{description}{desc},%
{descriptionplural}{descplural},%
{symbol}{symbol},%
{symbolplural}{symbolplural},%
{user1}{useri},%
{user2}{userii},%
{user3}{useriii},%
{user4}{useriv},%
{user5}{userv},%
{user6}{uservi},%
{long}{long},%
{longplural}{longpl},%
{short}{short},%
{shortplural}{shortpl},%
{counter}{counter},%
{parent}{parent}%
}

```

`\@gls@fetchfield`

```
\@gls@fetchfield{<cs>}{<field>}
```

Fetches the internal field label from the given user *<field>* and stores in *<cs>*.

```
\newcommand*{\@gls@fetchfield}[2]{%
```

Ensure user field name is fully expanded

```
\edef\@gls@thisval{#2}%
```

Iterate through known mappings until we find the one for this field.

```
\@for\@gls@map:=\@gls@keymap\do{%
\edef\@this@key{\expandafter\@firstoftwo\@gls@map}%
\ifdefequal{\@this@key}{\@gls@thisval}%
{%
```

Found it.

```
\edef#1{\expandafter\@secondoftwo\@gls@map}%
```

Break out of loop.

```
\@endfortrue
}%
}%
}%
}
```

`\glsaddstoragekey`

```
\glsaddstoragekey{<key>}{<default value>}{<no link cs>}
```

Similar to `\glsaddkey` but intended for keys whose values aren't explicitly used in the document, but might be required behind the scenes by other commands.

```
\newcommand*\glsaddstoragekey{\@ifstar\@sglsaddstoragekey\@glsaddstoragekey}
```

Starred version switches on expansion for this key.

```
\newcommand*\@sglsaddstoragekey[1]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \expandafter\newcommand\expandafter*\expandafter
    {\csname gls@assign@#1@field\endcsname}[2]{%
      \@gls@expand@field{##1}{#1}{##2}%
    }%
  }%
  {}%
  \@glsaddstoragekey{#1}%
}
```

Unstarred version doesn't override default expansion.

```
\newcommand*\@glsaddstoragekey[3]{%
```

Check the specified key doesn't already exist.

```
\key@ifundefined{glossentry}{#1}%
  {%
```

Set up the key.

```
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
```

Set the default value.

```
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
```

Assignment code.

```
\appto\@newglossaryentryposthook{%
  \letcs{\@glo@tmp}{@glo@#1}%
  \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
```

Define the no-link commands.

```
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
}%
  {%
  \PackageError{glossaries}{Key '#1' already exists}{}%
}%
}
```

```
\glsaddkey{<key>}{<default value>}{<no link cs>}{<no link
ucfirst
cs>}{<link cs>}{<link ucfirst cs>}{<link allcaps cs>}
```

`\glsaddkey`

Allow user to add their own custom keys.

```
\newcommand*\glsaddkey{\@ifstar\@sglsaddkey\@glsaddkey}
```

Starred version switches on expansion for this key.

```
\newcommand*{\@sglsaddkey}[1]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \expandafter\newcommand\expandafter*\expandafter
    {\csname gls@assign@#1@field\endcsname}[2]{%
      \@gls@expand@field{##1}{#1}{##2}%
    }%
  }%
  {}%
  \@glsaddkey{#1}%
}
```

Unstarred version doesn't override default expansion.

```
\newcommand*{\@glsaddkey}[7]{%
```

Check the specified key doesn't already exist.

```
\key@ifundefined{glossentry}{#1}%
{%
```

Set up the key.

```
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
```

Set the default value.

```
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
```

Assignment code.

```
\appto\@newglossaryentryposthook{%
  \letcs{@glo@tmp}{@glo@#1}%
  \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
```

Define the no-link commands.

```
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
\newcommand*{#4}[1]{\@Glsentryfield{##1}{#1}}%
```

Now for the commands with links. First the version with no case change:

```
\ifcsdef{@gls@user@#1@}%
{%
  \PackageError{glossaries}%
  {Can't define '\string#5' as helper command
   '\expandafter\string\csname @gls@user@#1\endcsname' already exists}%
  {}%
}%
{%
  \expandafter\newcommand\expandafter*\expandafter
  {\csname @gls@user@#1\endcsname}[2][1]{%
    \new@ifnextchar[%
      {\csuse{@gls@user@#1@}{##1}{##2}}%
      {\csuse{@gls@user@#1@}{##1}{##2}[1]}}%
  \csdef{@gls@user@#1@}##1##2[##3]{%
```

```

    \@gls@field@link{##1}{##2}{#3{##2}##3}%
  }%
  \newrobustcmd*{#5}{%
    \expandafter\@gls@hyp@opt\csname @gls@user@#1\endcsname}%
  }%

```

Next the version with the first letter converted to upper case:

```

\ifcsdef{@Gls@user@#1@}%
{
  \PackageError{glossaries}%
  {Can't define '\string#6' as helper command
  '\expandafter\string\csname @Gls@user@#1\endcsname' already exists}%
  {}%
}%
{
  \expandafter\newcommand\expandafter*\expandafter
  {\csname @Gls@user@#1\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@Gls@user@#1@}{##1}{##2}}%
      {\csuse{@Gls@user@#1@}{##1}{##2}[ ]}}%
  \csdef{@Gls@user@#1@}##1##2[##3]{%
    \@gls@field@link{##1}{##2}{#4{##2}##3}%
  }%
  \newrobustcmd*{#6}{%
    \expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
  }%

```

Finally the all caps version:

```

\ifcsdef{@GLS@user@#1@}%
{
  \PackageError{glossaries}%
  {Can't define '\string#7' as helper command
  '\expandafter\string\csname @GLS@user@#1\endcsname' already exists}%
  {}%
}%
{
  \expandafter\newcommand\expandafter*\expandafter
  {\csname @GLS@user@#1\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@GLS@user@#1@}{##1}{##2}}%
      {\csuse{@GLS@user@#1@}{##1}{##2}[ ]}}%
  \csdef{@GLS@user@#1@}##1##2[##3]{%
    \@gls@field@link{##1}{##2}{\glsuppercase{#3{##2}##3}}%
  }%
  \newrobustcmd*{#7}{%
    \expandafter\@gls@hyp@opt\csname @GLS@user@#1\endcsname}%
  }%

```

Add mappings.

```

\glsmfuaddmap{#3}{#4}%
\glsmfuaddmap{#5}{#6}%
\glsmfublocker{#7}%
}%
{%
\PackageError{glossaries}{Key ‘#1’ already exists}{}%
}%
}

```

\glsfieldxdef

```
\glsfieldxdef{<label>}{<field>}{<definition>}
```

```

\newrobustcmd{\glsfieldxdef}[3]{%
\glsdoifexists{#1}%
{%
\protected@edef\glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\glo@label @#2}%
{%
\protected@csxdef{glo@\glo@label @#2}{#3}%
}%
{%
\PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}%
}

```

\glsfielddedef

```
\glsfielddedef{<label>}{<field>}{<definition>}
```

```

\newrobustcmd{\glsfielddedef}[3]{%
\glsdoifexists{#1}%
{%
\protected@edef\glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\glo@label @#2}%
{%
\protected@csedef{glo@\glo@label @#2}{#3}%
}%
{%
\PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}%
}

```

\glsfieldgdef

```
\glsfieldgdef{<label>}{<field>}{<definition>}
```

```

\newrobustcmd{\glsfieldgdef}[3]{%
\glsdoifexists{#1}%
{%
\protected@edef\@glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\@glo@label @#2}%
{%
\expandafter\gdef\csname glo@\@glo@label @#2\endcsname{#3}%
}%
}%
\PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}

```

\glsfielddef

`\glsfielddef{<label>}{<field>}{<definition>}`

```

\newrobustcmd{\glsfielddef}[3]{%
\glsdoifexists{#1}%
{%
\protected@edef\@glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\@glo@label @#2}%
{%
\expandafter\def\csname glo@\@glo@label @#2\endcsname{#3}%
}%
}%
\PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}

```

\glsfieldfetch

`\glsfieldfetch{<label>}{<field>}{<cs>}`

Fetches the value of the given field and stores in the given control sequence.

```

\newrobustcmd{\glsfieldfetch}[3]{%
\glsdoifexists{#1}%
{%
\protected@edef\@glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\@glo@label @#2}%
{%
\letcs#3{glo@\@glo@label @#2}%
}%
}%
\PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}

```

```
}%
}
```

```
\glsunexpandedfieldvalue{<label>}{<field>}
```

`\glsunexpandedfieldvalue`

For use in expandable contexts where the field value is required, but the contents should not be expanded. The `<field>` argument must be the internal field name.

```
\newrobustcmd*{\glsunexpandedfieldvalue}[2]{%
  \ifcsname glo@\glsdetoklabel{#1}@#2\endcsname
  \expandafter\expandonce\csname glo@\glsdetoklabel{#1}@#2\expandafter\endcsname
  \fi
}
```

```
\ifglsfieldef{<label>}{<field>}{<string>}{<true>}{<false>}
```

`\ifglsfieldef`

Tests if the value of the given field is equal to the given string.

```
\newrobustcmd{\ifglsfieldef}[5]{%
  \glsdoifexists{#1}%
  {%
    \protected@edef\glo@label{\glsdetoklabel{#1}}%
    \ifcsdef{glo@\glo@label @#2}%
    {%
      \ifcsstring{glo@\glo@label @#2}{#3}{#4}{#5}%
    }%
    {%
      \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
    }%
  }%
}
```

```
\ifglsfielddefeq{<label>}{<field>}{<command>}{<true>}{<false>}
```

`\ifglsfielddefeq`

Tests if the value of the given field is equal to the replacement text of the given command.

```
\newrobustcmd{\ifglsfielddefeq}[5]{%
  \glsdoifexists{#1}%
  {%
    \protected@edef\glo@label{\glsdetoklabel{#1}}%
    \ifcsdef{glo@\glo@label @#2}%
    {%
```

Use `\ifdefstrequal` not `\ifcsstrequal` as the #3 argument should be a command.

```
\expandafter\ifdefstrequal\csname glo@\glo@label @#2\endcsname{#3}{#4}{#5}%
```



```

    }%
    {%
    \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
    }%
  }%
}

```

```

\ifglsfieldcseq{<label>}{<field>}{<cs name>}{<true>}
{<false>}

```

\ifglsfieldcseq

As above but uses \ifcsstrequal instead of \ifdefstrequal

```

\newcommand{\ifglsfieldcseq}[5]{%
\glsdoifexists{#1}%
{%
\protected@edef\glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\glo@label @#2}%
{%
\ifcsstrequal{glo@\glo@label @#2}{#3}{#4}{#5}%
}%
}%
\PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
}%
}

```

\gls.writedefhook

```

\newcommand*{\gls.writedefhook}{}

```

\gls@assign@desc

```

\newcommand*{\gls@assign@desc}[1]{%
\gls@assign@field{#1}{desc}{\@glo@desc}%
\gls@assign@field{\@glo@desc}{#1}{descplural}{\@glo@descplural}%
}

```

\longnewglossaryentry

```

\newcommand{\longnewglossaryentry}[3]{%
\glsdoifnoexists{#1}%
{%
\bgroup
\let\@org@newglossaryentryprehook\@newglossaryentryprehook
\long\def\@newglossaryentryprehook{%
\long\def\@glo@desc{#3\leavevmode\unskip\nopostdesc}%
\@org@newglossaryentryprehook
}%
\renewcommand*{\gls@assign@desc}[1]{%
\global\cslet{glo@\glsdetoklabel{#1}@desc}{\@glo@desc}%
\global\cslet{glo@\glsdetoklabel{#1}@descplural}{\@glo@desc}%
}
}

```

```

        \gls@defglossaryentry{#1}{#2}%
    \egroup
}
}

```

Only allowed in the preamble. (Otherwise a long description could cause problems when writing the entry definition to the temporary file.)

```
\@onlypreamble{\longnewglossaryentry}
```

`\longprovideglossaryentry` As the above but only defines the entry if it doesn't already exist.

```

\newcommand{\longprovideglossaryentry}[3]{%
  \ifglentryexists{#1}{%
    {\longnewglossaryentry{#1}{#2}{#3}}%
  }
\@onlypreamble{\longprovideglossaryentry}

```

```
\gls@defglossaryentry{<label>}{<key-val list>}
```

`\gls@defglossaryentry`

Defines a new entry without checking if it already exists.

```
\newcommand{\gls@defglossaryentry}[2]{%
```

Prevent any further use of `\GlsSetQuote`:

```
\let\GlsSetQuote\gls@nosetquote
```

Store label

```
\protected@edef\glo@label{\glsdetoklabel{#1}}%
```

Provide a means for user defined keys to reference the label:

```
\let\glslabel\glo@label
```

Set up defaults. If the name or description keys are omitted, an error will be generated.

```
\let\glo@name\gls@name
```

```
\let\glo@desc\gls@desc
```

```
\let\glo@descplural\gls@default@value
```

```
\let\glo@type\gls@default@value
```

```
\let\glo@symbol\gls@default@value
```

```
\let\glo@symbolplural\gls@default@value
```

```
\let\glo@text\gls@default@value
```

```
\let\glo@plural\gls@default@value
```

Using `\let` instead of `\def` to make later comparison avoid expansion issues. (Thanks to Ulrich Diez for suggesting this.)

```
\let\glo@first\gls@default@value
```

```
\let\glo@firstplural\gls@default@value
```

Set the default sort:

```
\let\@glo@sort\@gls@default@value
```

Set the default counter:

```
\let\@glo@counter\@gls@default@value
```

```
\def\@glo@see{ }%
```

```
\def\@glo@parent{ }%
```

```
\def\@glo@prefix{ }%
```

Initialise nonnumberlist setting if we're in the document environment.

```
\@gls@initnonnumberlist
```

```
\def\@glo@useri{ }%
```

```
\def\@glo@userii{ }%
```

```
\def\@glo@useriii{ }%
```

```
\def\@glo@useriv{ }%
```

```
\def\@glo@userv{ }%
```

```
\def\@glo@uservi{ }%
```

```
\def\@glo@short{ }%
```

```
\def\@glo@shortpl{ }%
```

```
\def\@glo@long{ }%
```

```
\def\@glo@longpl{ }%
```

Add start hook in case another package wants to add extra keys.

```
\@newglossaryentryprehook
```

Extract key-val information from third parameter:

```
\setkeys{glossentry}{#2}%
```

Check there is a default glossary.

```
\ifundef\glsdefaulttype
```

```
{%
```

```
\PackageError{glossaries}%
```

```
{No default glossary type (have you used 'nomain' by mistake?)}%
```

```
{If you use package option 'nomain' you must define
```

```
a new glossary before you can define entries}%
```

```
}%
```

```
{ }%
```

Assign type. This must be fully expandable

```
\gls@assign@field{\glsdefaulttype}{\@glo@label}{type}{\@glo@type}%
```

```
\protected@edef\@glo@type{\glsentrytype{\@glo@label}}%
```

Check to see if this glossary type has been defined, if it has, add this label to the relevant list, otherwise generate an error.

```
\ifcsundef{glolist@\@glo@type}%
```

```
{%
```

```
\PackageError{glossaries}%
```

```
{Glossary type '\@glo@type' has not been defined}%
```

```

        {You need to define a new glossary type, before making entries
        in it}%
    }%
    {%
Check if it's an ignored glossary
    \ifignoredglossary\@glo@type
    {%
The description may be omitted for an entry in an ignored glossary.
    \ifx\@glo@desc\@glsnodesc
    \let\@glo@desc\@empty
    \fi
    }%
    {%
    }%
    \protected@edef\@glo@list@\csname glist@\@glo@type\endcsname}%

    \expandafter\protected@xdef\csname glist@\@glo@type\endcsname{%
    \@glo@list@\@glo@label},}%
    }%

Initialise level to 0.
    \gls@level=0\relax
Has this entry been assigned a parent?
    \ifx\@glo@parent\@empty
Doesn't have a parent. Set \glo@<label>@parent to empty.
    \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
    \else
Has a parent. Check to ensure this entry isn't its own parent.
    \ifdefequal\@glo@label\@glo@parent%
    {%
        \PackageError{glossaries}{Entry '@@glo@label' can't be its own parent}{}%
        \def\@glo@parent{}%
        \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
    }%
    {%
Check the parent exists:
    \ifglsentryexists{\@glo@parent}%
    {%
Parent exists. Set \glo@<label>@parent.
    \expandafter\protected@xdef\csname glo@\@glo@label @parent\endcsname{%
    \@glo@parent}%

Determine level.
    \gls@level=\csname glo@\@glo@parent @level\endcsname\relax
    \advance\gls@level by 1\relax

```

If name hasn't been specified, use same as the parent name

```
\ifx\@glo@name\@glsnoname
\expandafter\let\expandafter\@glo@name
\csname glo@\@glo@parent @name\endcsname
```

If name and plural haven't been specified, use same as the parent

```
\ifx\@glo@plural\@gls@default@value
\expandafter\let\expandafter\@glo@plural
\csname glo@\@glo@parent @plural\endcsname
\fi
\fi
}%
{%
```

Parent doesn't exist, so issue an error message and change this entry to have no parent

```
\PackageError{glossaries}%
{%
  Invalid parent '@glo@parent'
  for entry '@glo@label' - parent doesn't exist%
}%
{%
  Parent entries must be defined before their children%
}%
\def\@glo@parent{}%
\expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
}%
}%
\fi
```

Set the level for this entry

```
\expandafter\xdef\csname glo@\@glo@label @level\endcsname{\number\gls@level}%
```

Define commands associated with this entry:

```
\gls@assign@field{\@glo@name}{\@glo@label}{sortvalue}{\@glo@sort}%
\letcs\@glo@sort{glo@\@glo@label @sortvalue}%
\gls@assign@field{\@glo@name}{\@glo@label}{text}{\@glo@text}%
\expandafter\gls@assign@field\expandafter
  {\csname glo@\@glo@label @text\endcsname\glspluralsuffix}%
  {\@glo@label}{plural}{\@glo@plural}%
\expandafter\gls@assign@field\expandafter
  {\csname glo@\@glo@label @text\endcsname}%
  {\@glo@label}{first}{\@glo@first}%
```

If first has been specified, make the default by appending `\glspluralsuffix`, otherwise make the default the value of the plural key.

```
\ifx\@glo@first\@gls@default@value
\expandafter\gls@assign@field\expandafter
  {\csname glo@\@glo@label @plural\endcsname}%
  {\@glo@label}{firstpl}{\@glo@firstplural}%
\else
```

```

\expandafter\gls@assign@field\expandafter
  {\csname glo@\glo@label @first\endcsname\glspluralsuffix}%
  {\@glo@label}{firstpl}{\@glo@firstplural}%
\fi

\ifcsundef{@glo@type@\glo@type @counter}%
{%
  \def\glo@defaultcounter{\glscounter}%
}%
{%
  \letcs\glo@defaultcounter{@glo@type@\glo@type @counter}%
}%
\gls@assign@field{\@glo@defaultcounter}{\@glo@label}{counter}{\@glo@counter}%
\gls@assign@field{}{\@glo@label}{useri}{\@glo@useri}%
\gls@assign@field{}{\@glo@label}{userii}{\@glo@userii}%
\gls@assign@field{}{\@glo@label}{useriii}{\@glo@useriii}%
\gls@assign@field{}{\@glo@label}{useriv}{\@glo@useriv}%
\gls@assign@field{}{\@glo@label}{userv}{\@glo@userv}%
\gls@assign@field{}{\@glo@label}{servi}{\@glo@servi}%
\gls@assign@field{}{\@glo@label}{short}{\@glo@short}%
\gls@assign@field{}{\@glo@label}{shortpl}{\@glo@shortpl}%
\gls@assign@field{}{\@glo@label}{long}{\@glo@long}%
\gls@assign@field{}{\@glo@label}{longpl}{\@glo@longpl}%
\ifx\glo@name\glsnoname
  \glsnoname
  \let\glo@name\gls@default@value
\fi
\gls@assign@field{}{\@glo@label}{name}{\@glo@name}%

```

Set default numberlist if not defined:

```

\ifcsundef{glo@\glo@label @numberlist}%
{%
  \csxdef{glo@\glo@label @numberlist}{%
    \noexpand\gls@missingnumberlist{\@glo@label}}%
}%
{ }%

```

Store nonumberlist setting if we're in the document environment.

```
\gls@storenonumberlist{\@glo@label}%
```

The smaller and smallcaps options set the description to `\@glo@first`. Need to check for this, otherwise it won't get expanded if the description gets sanitized.

```

\def\glo@@desc{\@glo@first}%
\ifx\glo@desc\glo@@desc
  \let\glo@desc\@glo@first
\fi
\ifx\glo@desc\glsnodesc
  \glsnodesc
  \let\glo@desc\gls@default@value
\fi

```

```
\gls@assign@desc{\@glo@label}%
```

Set the sort key for this entry:

```
\gls@defsort{\@glo@type}{\@glo@label}%
```

```
\def\@glo@symbol{\@glo@text}%
```

```
\ifx\@glo@symbol\@glo@symbol
```

```
\let\@glo@symbol\@glo@text
```

```
\fi
```

```
\gls@assign@field{\relax}{\@glo@label}{symbol}{\@glo@symbol}%
```

```
\expandafter
```

```
\gls@assign@field\expandafter
```

```
{\csname glo@\@glo@label @symbol\endcsname}
```

```
{\@glo@label}{symbolplural}{\@glo@symbolplural}%
```

Define an associated boolean variable to determine whether this entry has been used yet (needs to be defined globally):

```
\expandafter\protected@xdef\csname glo@\@glo@label @flagfalse\endcsname{%
```

```
\noexpand\global
```

```
\noexpand\let\expandafter\noexpand
```

```
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iffalse
```

```
}%
```

```
\expandafter\protected@xdef\csname glo@\@glo@label @flagtrue\endcsname{%
```

```
\noexpand\global
```

```
\noexpand\let\expandafter\noexpand
```

```
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iftrue
```

```
}%
```

```
\csname glo@\@glo@label @flagfalse\endcsname
```

Sort out any cross-referencing if required.

```
\@glo@autosee
```

Determine and store main part of the entry's index format.

```
\ifignoredglossary\@glo@type
```

```
{%
```

```
\csdef{glo@\@glo@label @index}{}%
```

```
}
```

```
{%
```

```
\do@glo@storeentry{\@glo@label}%
```

```
}%
```

Define entry counters if enabled:

```
\@newglossaryentry@defcounters
```

Add end hook in case another package wants to add extra keys.

```
\@newglossaryentryposthook
```

```
}
```

`\@glo@autosee` Automatically implement `\glssee`.

```
\newcommand*{\@glo@autosee}{%
```

```
\ifdefvoid\@glo@see{%
```

```
{%
```

```

        \protected@edef\do@glsee{%
        \noexpand\@gls@fixbraces\noexpand\@glo@list\@glo@see\noexpand\@nil
        \noexpand\expandafter\noexpand\@glsee\noexpand\@glo@list{\@glo@label}}%
        \do@glsee
    }%
    \@glo@autoseehook
}%

\@glo@autoseehook

\newcommand*{\@glo@autoseehook}{-}

\@newglossaryentryprehook Allow extra information to be added to glossary entries:
\newcommand*{\@newglossaryentryprehook}{-}

\@newglossaryentryposthook Allow extra information to be added to glossary entries:
\newcommand*{\@newglossaryentryposthook}{-}

newglossaryentry@defcounters

\newcommand*{\@newglossaryentry@defcounters}{-}

\glsmoveentry Moves entry whose label is given by first argument to the glossary named in the
second argument.
\newcommand*{\glsmoveentry}[2]{%
\protected@edef\@glo@thislabel{\glsdetoklabel{#1}}%
\protected@edef\@glo@type{\csname glo@\@glo@thislabel @type\endcsname}%
\def\@glo@list{,}%
\for@glseentries[\@glo@type]{\@glo@label}%
{
\ifdefequal\@glo@thislabel\@glo@label
}{\protected@eappto\@glo@list{\@glo@label,}}%
}%
\cslet\@glo@list[\@glo@type]{\@glo@list}%
\csdef\@glo@\@glo@thislabel @type}{#2}%
}

\@glossaryentryfield Indicate what command should be used to display each entry in the glossary.
(This enables the glossaries-accsupp package to use \accsuppglossaryentryfield
instead.)
\ifglxindy
\newcommand*{\@glossaryentryfield}{\string\glossentry}
\else
\newcommand*{\@glossaryentryfield}{\string\glossentry}
\fi

\@glossarysubentryfield Indicate what command should be used to display each subentry in the glossary.
(This enables the glossaries-accsupp package to use \accsuppglossarysubentryfield
instead.)
\ifglxindy

```



```

\newcommand*{\@glossarysubentryfield}{%
  \string\subglossentry}
\else
\newcommand*{\@glossarysubentryfield}{%
  \string\subglossentry}
\fi

```

```
\@glo@storeentry{<label>}
```

\@glo@storeentry

Determine the format to write the entry in the glossary output (.glo) file. The argument is the entry's label (should already have been de-tok'ed if required). The result is stored in \glo@<label>@index, where <label> is the entry's label. (This doesn't include any formatting or location information.)

```
\newcommand{\@glo@storeentry}[1]{%
```

Escape makeindex/xindy special characters in the label:

```

\protected@edef\@glo@esclabel{#1}%
\@gls@checkmkidxchars\@glo@esclabel

```

Get the sort string and escape any special characters

```

\protected@edef\@glo@sort{\csname glo@#1@sort\endcsname}%
\@gls@checkmkidxchars\@glo@sort

```

Same again for the name string. Escape any special characters in the prefix

```
\@gls@checkmkidxchars\@glo@prefix
```

Get the parent, if one exists

```
\protected@edef\@glo@parent{\csname glo@#1@parent\endcsname}%
```

Write the information to the glossary file.

```
\ifglxindy
```

Store using xindy syntax.

```
\ifx\@glo@parent\@empty
```

Entry doesn't have a parent

```

\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
  (\string\@glo@sort\string" %
  \string\@glo@prefix\@glossaryentryfield{\@glo@esclabel}\string") %
}%
\else

```

Entry has a parent

```

\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
  \csname glo@\@glo@parent @index\endcsname
  (\string\@glo@sort\string" %
  \string\@glo@prefix\@glossarysubentryfield
  {\csname glo@#1@level\endcsname}{\@glo@esclabel}\string") %
}%

```

```

\fi
\else

```

Store using makeindex syntax.

```
\ifx\@glo@parent\@empty
```

Sanitize \@glo@prefix

```
\@onelevel@sanitize\@glo@prefix
```

Entry doesn't have a parent

```
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%  
  \@glo@sort\@gls@actualchar\@glo@prefix  
  \@glossaryentryfield{\@glo@esclabel}}%  
}%
```

```
\else
```

Entry has a parent

```
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%  
  \csname glo@\@glo@parent @index\endcsname\@gls@levelchar  
  \@glo@sort\@gls@actualchar\@glo@prefix  
  \@glossarysubentryfield  
    {\csname glo@#1@level\endcsname}{\@glo@esclabel}}%  
}%
```

```
\fi
```

```
\fi
```

```
}
```

2.8 Resetting and unsetting entry flags

Each glossary entry is assigned a conditional of the form `\ifglo@<label>@flag` which determines whether or not the entry has been used (see also `\ifglsused` defined below). These flags can be set and unset using the following macros, but first we need to know if we're in `amsmath`'s `align` environment's measuring pass.

```
\@gls@if@measuring
```

```
\newcommand*{\@gls@if@measuring}[2]{%  
  \ifmeasuring@  
    #1%  
  \else  
    #2%  
  \fi  
}
```

```
\gls@org@refstepcounter
```

```
\let\gls@org@refstepcounter\refstepcounter  
\let\gls@org@label\label
```

```
\gls@if@measuring
```

```
\newcommand{\gls@if@measuring}[2]{#2}
```

If amsmath has been loaded, set `\gls@if@measuring` to `\@gls@if@measuring`

```
\AtBeginDocument{%
  \ifpackageloaded{amsmath}%
  {\let\gls@if@measuring\@gls@if@measuring}%
  {}%
  \let\gls@org@refstepcounter\refstepcounter
  \let\gls@org@label\label
}
```

`\gls@ifnotmeasuring`

```
\newcommand*\gls@ifnotmeasuring[1]{\glsifmeasuring{#1}}
```

`\glsifmeasuring`

```
\newcommand*\glsifmeasuring{\gls@if@measuring}
```

`\gls@local@stepcounter`

```
\newcommand*\gls@local@stepcounter[1]{%
  \ifcsdef{c#1}%
  {%
    \epreto\gls@measuring@reset{\noexpand\setcounter{#1}{\number\value{#1}}}%
    \expandafter\advance\csname c#1\endcsname by \@ne
  }%
  {}%
}
```

`\gls@start@measuring` It's best to scope this, but still provide some support to switch on and off.

```
\newcommand{\gls@start@measuring}{%
  \ifx\glsifmeasuring\@firstoftwo
  \else
    \let\gls@org@target\glstarget
    \let\gls@org@link\@glslink
    \def\gls@measuring@reset{}%
  \fi
  \let\glsifmeasuring\@firstoftwo
  \let\refstepcounter\gls@local@stepcounter
  \let\label\@gobble
  \let\glstarget\@secondoftwo
  \let\@glslink\@secondoftwo
}
```

If datatool-base v3.0 available, add to measuring hook:

```
\ExplSyntaxOn
\tl_if_exist:NT \l_datatool_measure_hook_tl
{
  \tl_put_right:Nn \l_datatool_measure_hook_tl
  { \gls@start@measuring }
}
\ExplSyntaxOff
```

`\gls@stop@measuring`

```
\newcommand{\gls@stop@measuring}{%
  \renewcommand*{\gls@ifmeasuring}{\gls@if@measuring}%
  \let\refstepcounter\gls@org@refstepcounter
  \let\label\gls@org@label
  \let\glstarget\gls@org@target
  \let\@glslink\gls@org@link
  \gls@measuring@reset
  \def\gls@measuring@reset{%
}
```

`\glsmeasureheight`

```
\newcommand{\glsmeasureheight}[2]{%
  \settoheight{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
```

`\glsmeasuredepth`

```
\newcommand{\glsmeasuredepth}[2]{%
  \settodepth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
```

`\glsmeasurewidth`

```
\newcommand{\glsmeasurewidth}[2]{%
  \settowidth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
```

`\glspatchtabularx` Patch `\TX@trial` (as per David Carlisle's answer in <http://tex.stackexchange.com/a/94895>). This does nothing if `\TX@trial` hasn't been defined.

```
\def\@gls@patchtabularx#1\hbox#2#3!!{%
  \def\TX@trial##1{##1\hbox{\gls@start@measuring#2\gls@stop@measuring}##3}%
}
\newcommand*\glspatchtabularx{%
  \ifdef\TX@trial
  {%
    \expandafter\@gls@patchtabularx\TX@trial{##1}!!%
    \let\glspatchtabularx\relax
  }%
  {}%
}
```

`\glsreset` The command `\glsreset{<label>}` can be used to set the entry flag to indicate that it hasn't been used yet. The required argument is the entry label.

```
\newcommand*\glsreset[1]{%
  \gls@ifnotmeasuring
  {%
    \glsdoifexists{#1}%
    {%
      \@glsreset{#1}%
    }%
  }
```

```
    }%
  }
```

`\glslocalreset` As above, but with only a local effect:

```
\newcommand*\glslocalreset[1]{%
  \gls@ifnotmeasuring
  {%
    \glsdoifexists{#1}%
    {%
      \@glslocalreset{#1}%
    }%
  }%
}
```

`\glsunset` The command `\glsunset{<label>}` can be used to set the entry flag to indicate that it has been used. The required argument is the entry label.

```
\newcommand*\glsunset[1]{%
  \gls@ifnotmeasuring
  {%
    \glsdoifexists{#1}%
    {%
      \@glsunset{#1}%
    }%
  }%
}
```

`\glslocalunset` As above, but with only a local effect:

```
\newcommand*\glslocalunset[1]{%
  \gls@ifnotmeasuring
  {%
    \glsdoifexists{#1}%
    {%
      \@glslocalunset{#1}%
    }%
  }%
}
```

`\@glslocalunset` Local unset. This defaults to just `\@@glslocalunset` but is changed by `\glsenableentrycount`.

```
\newcommand*\@glslocalunset{\@@glslocalunset}
```

`\@@glslocalunset` Local unset without checks.

```
\newcommand*\@@glslocalunset[1]{%
  \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iftrue
}
```

`\@glsunset` Global unset. This defaults to just `\@@glsunset` but is changed by `\glsenableentrycount`.

```
\newcommand*\@glsunset{\@@glsunset}
```

`\@@glsunset` Global unset without checks.

```
\newcommand*{\@@glsunset}[1]{%
  \expandafter\global\csname glo@\glsdetoklabel{#1}@flagtrue\endcsname
}
```

`\@glslocalreset` Local reset. This defaults to just `\@@glslocalreset` but is changed by `\glsenableentrycount`.

```
\newcommand*{\@glslocalreset}{\@@glslocalreset}
```

`\@@glslocalreset` Local reset without checks.

```
\newcommand*{\@@glslocalreset}[1]{%
  \expandafter\let\csname ifglo@\glsdetoklabel{#1}@flag\endcsname\iffalse
}
```

`\@glsreset` Global reset. This defaults to just `\@@glsreset` but is changed by `\glsenableentrycount`.

```
\newcommand*{\@glsreset}{\@@glsreset}
```

`\@@glsreset` Global reset without checks.

```
\newcommand*{\@@glsreset}[1]{%
  \expandafter\global\csname glo@\glsdetoklabel{#1}@flagfalse\endcsname
}
```

Reset all entries for the named glossaries (supplied in a comma-separated list). Syntax: `\glsresetall[<glossary-list>]`

`\glsresetall`

```
\newcommand*{\glsresetall}[1][\@glo@types]{%
  \forallglsentries[#1]{\@glsentry}%
  {%
    \glsreset{\@glsentry}%
  }%
}
```

As above, but with only a local effect:

`\glslocalresetall`

```
\newcommand*{\glslocalresetall}[1][\@glo@types]{%
  \forallglsentries[#1]{\@glsentry}%
  {%
    \glslocalreset{\@glsentry}%
  }%
}
```

Unset all entries for the named glossaries (supplied in a comma-separated list). Syntax: `\glsunsetall[<glossary-list>]`

```

\glsunsetall
  \newcommand*\glsunsetall[1][\@glo@types]{%
    \forallglsentries[#1]{\@glsentry}%
    {%
      \glsunset{\@glsentry}%
    }%
  }

```

As above, but with only a local effect:

```

\glslocalunsetall
  \newcommand*\glslocalunsetall[1][\@glo@types]{%
    \forallglsentries[#1]{\@glsentry}%
    {%
      \glslocalunset{\@glsentry}%
    }%
  }

```

2.9 Keeping Track of How Many Times an Entry Has Been Unset

Version 4.14 introduced `\glsenableentrycount` that keeps track of how many times an entry is marked as used. The counter is reset back to zero when the first use flag is reset. Note that although the word “counter” is used here, it’s not an actual L^AT_EX counter or even an explicit T_EX count register but is just a macro. Any of the commands that use `\glsunset` or `\glslocalunset`, such as `\gls`, will automatically increment this value. Commands that don’t modify the first use flag (such as `\glstext` or `\glsentrytext`) don’t modify this value.

`\newglossaryentry@defcounters` Define entry fields to keep track of how many times that entry has been marked as used.

```

\newcommand*\@newglossaryentry@defcounters{%
  \csdef{glo@\@glo@label @currcount}{0}%
  \csdef{glo@\@glo@label @prevcount}{0}%
}

```

`\ifglsresetcurrcount` A conditional to determine whether or not to reset the entry count to zero if the first use flag is reset. The default is now not to do this, which changes the implementation for v4.49 and below.

```

\newif\ifglsresetcurrcount
\glsresetcurrcountfalse

```

`\glsenableentrycount` Enables tracking of how many times an entry has been marked as used.

```

\newcommand*\glsenableentrycount{%

```

Enable new entry fields.

```

\let\@newglossaryentry@defcounters\@newglossaryentry@defcounters

```

Disable `\newglossaryentry` in the document environment.

```
\renewcommand*\gls@defdocnewglossaryentry}{%
\renewcommand*\newglossaryentry[2]{%
\PackageError{glossaries}{\string\newglossaryentry\space
may only be used in the preamble when entry counting has
been activated}{If you use \string\glsenableentrycount\space
you must place all entry definitions in the preamble not in
the document environment}%
}%
}%
```

Define commands `\glsentrycurrcount` and `\glsentryprevcount` to access these new fields. Default to zero if undefined.

```
\newcommand*\glsentrycurrcount}[1]{%
\ifcsundef{gls@glsdetoklabel{##1}@currcount}%
{0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
\ifcsundef{gls@glsdetoklabel{##1}@prevcount}%
{0}{\@gls@entry@field{##1}{prevcount}}%
}%
```

Make the `unset` and `reset` functions also increment or reset the entry counter.

```
\renewcommand*\@glsunset}[1]{%
\@glsunset{##1}%
\@gls@increment@currcount{##1}%
}%
\renewcommand*\@glslocalunset}[1]{%
\@glslocalunset{##1}%
\@gls@local@increment@currcount{##1}%
}%
\renewcommand*\@glsreset}[1]{%
\@glsreset{##1}%
\ifglsresetcurrcount\csgdef{gls@glsdetoklabel{##1}@currcount}{0}\fi
}%
\renewcommand*\@glslocalreset}[1]{%
\@glslocalreset{##1}%
\ifglsresetcurrcount\csdef{gls@glsdetoklabel{##1}@currcount}{0}\fi
}%
```

Alter behaviour of `\cgl`s. (Only global `unset` is used if previous count was one as it doesn't make sense to have a local `unset` here given that the previous count was global.)

```
\def\@cgl#1##2[##3]{%
\ifnum\glsentryprevcount{##2}=1\relax
\cglformat{##2}{##3}%
\glsunset{##2}%
\else
\@gls@{##1}{##2}[##3]%
\fi
}%
```


Similarly for the analogous commands. No case change plural:

```
\def\cglsp1@##1##2[##3]{%
  \ifnum\glentryprevcount{##2}=1\relax
    \cglsp1format{##2}{##3}%
    \glunset{##2}%
  \else
    \@glsp1@{##1}{##2}[##3]%
  \fi
}%
```

First letter uppercase singular:

```
\def@cGls@##1##2[##3]{%
  \ifnum\glentryprevcount{##2}=1\relax
    \cGlsformat{##2}{##3}%
    \glunset{##2}%
  \else
    \@Gls@{##1}{##2}[##3]%
  \fi
}%
```

First letter uppercase plural:

```
\def@cGlspl@##1##2[##3]{%
  \ifnum\glentryprevcount{##2}=1\relax
    \cGlsplformat{##2}{##3}%
    \glunset{##2}%
  \else
    \@Glspl@{##1}{##2}[##3]%
  \fi
}%
```

Write information to aux file at the end of the document

```
\AtEndDocument{\@gls@write@entrycounts}%
```

Fetch previous count information from aux file. (No check here to determine if the entry is still defined.)

```
\renewcommand*{\@gls@entry@count}[2]{%
  \csgdef{glo@glsdetoklabel{##1}@prevcount}{##2}%
}%
```

`\glsenableentrycount` may only be used once and only in the preamble.

```
\let\glsenableentrycount\relax
}
\@onlypreamble\glsenableentrycount
```

```
\@gls@increment@currcount
```

```
\newcommand*{\@gls@increment@currcount}[1]{%
  \csxdef{glo@glsdetoklabel{##1}@currcount}{%
    \number\numexpr\glentrycurrcount{##1}+1}%
}
```

```
s@local@increment@currcount
```

```

\newcommand*{\@gls@local@increment@currcount}[1]{%
  \csedef{glo@glstoklabel{#1}@currcount}{%
    \number\numexpr\glsentrycurrcount{#1}+1}%
  }

```

`\@gls@write@entrycounts` Write the entry counts to the aux file. Use `\immediate` since this occurs right at the end of the document. Only write information for entries that have been used. (Some users have a file containing vast numbers of entries, many of which may not be used. There's no point writing information about the entries that haven't been used and it will only slow things down.)

```

\newcommand*{\@gls@write@entrycounts}{%
  \immediate\write\@auxout
  {\string\providecommand*{\string@gls@entry@count}[2]{}}%
  \forallglsentries{\@glsentry}{%
    \ifglsused{\@glsentry}%
    {\immediate\write\@auxout
      {\string@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}}%
    }%
  }

```

`\@gls@entry@count` Default behaviour is to ignore arguments. Activated by `\glsenableentrycount`.

```

\newcommand*{\@gls@entry@count}[2]{}

```

`\cgl` Define command that works like `\gls` but behaves differently if the entry count function is enabled. (If not enabled, it behaves the same as `\gls` but issues a warning.)

```

\newrobustcmd*{\cgl}{\@gls@hyp@opt@cgl}

```

`\@cgl` Defined the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\@cgl}[2][]{%
  \new@ifnextchar[{\@cgl@{#1}{#2}}{\@cgl@{#1}{#2} []}]%
}

```

`\@cgl@` Read in the final optional argument. This defaults to same behaviour as `\gls` but issues a warning.

```

\def\@cgl@#1#2[#3]{%
  \GlossariesWarning{\string@cgl\space is defaulting to
    \string@gls\space since you haven't enabled entry counting}%
  \@gls@{#1}{#2}[#3]%
}

```

`\cglformat` Format used by `\cgl` if entry only used once on previous run. The first argument is the label, the second argument is the insert text.

```

\newcommand*{\cglformat}[2]{%
  \ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}

```

`\cGls` Define command that works like `\Gls` but behaves differently if the entry count function is enabled. (If not enabled, it behaves the same as `\Gls` but issues a warning.)

```
\newrobustcmd*{\cGls}{\@gls@hyp@opt\@cGls}
```

Add sentence case mapping.

```
\glsmfuaddmap{\cGls}{\cGls}
```

`\@cGls` Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@cGls}[2] [] {%
  \new@ifnextchar[{\@cGls@{#1}{#2}}{\@cGls@{#1}{#2} []}%
}
```

`\@cGls@` Read in the final optional argument. This defaults to same behaviour as `\Gls` but issues a warning.

```
\def\@cGls@#1#2[#3]{%
  \GlossariesWarning{\string\cGls\space is defaulting to
    \string\Gls\space since you haven't enabled entry counting}%
  \@Gls@{#1}{#2}[#3]%
}
```

`\cGlsformat` Format used by `\cGls` if entry only used once on previous run. The first argument is the label, the second argument is the insert text.

```
\newcommand*{\cGlsformat}[2] {%
  \ifglsashaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
```

`\cglsp1` Define command that works like `\glsp1` but behaves differently if the entry count function is enabled. (If not enabled, it behaves the same as `\glsp1` but issues a warning.)

```
\newrobustcmd*{\cglsp1}{\@gls@hyp@opt\@cglsp1}
```

`\@cglsp1` Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@cglsp1}[2] [] {%
  \new@ifnextchar[{\@cglsp1@{#1}{#2}}{\@cglsp1@{#1}{#2} []}%
}
```

`\@cglsp1@` Read in the final optional argument. This defaults to same behaviour as `\glsp1` but issues a warning.

```
\def\@cglsp1@#1#2[#3]{%
  \GlossariesWarning{\string\cglsp1\space is defaulting to
    \string\glsp1\space since you haven't enabled entry counting}%
  \@glsp1@{#1}{#2}[#3]%
}
```

`\cglspformat` Format used by `\cglsp1` if entry only used once on previous run. The first argument is the label, the second argument is the insert text.

```
\newcommand*{\cglspformat}[2]{%
  \ifglshaslong{#1}{\glstentrylongpl{#1}}{\glstentryfirstplural{#1}}#2%
}
```

`\cGlsp1` Define command that works like `\Glsp1` but behaves differently if the entry count function is enabled. (If not enabled, it behaves the same as `\Glsp1` but issues a warning.)

```
\newrobustcmd*{\cGlsp1}{\@gls@hyp@opt\cGlsp1}
```

Add sentence case mapping.

```
\glsmfuaddmap{\cglsp1}{\cGlsp1}
```

`\@cglsp1` Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@cGlsp1}[2][ ]{%
  \new@ifnextchar[{\@cGlsp1@{#1}{#2}}{\@cGlsp1@{#1}{#2}[ ]}%
}
```

`\@cGlsp1@` Read in the final optional argument. This defaults to same behaviour as `\Glsp1` but issues a warning.

```
\def\@cGlsp1@#1#2[#3]{%
  \GlossariesWarning{\string\cGlsp1\space is defaulting to
    \string\Glsp1\space since you haven't enabled entry counting}%
  \@Glsp1@{#1}{#2}[#3]%
}
```

`\cGlspformat` Format used by `\cGlsp1` if entry only used once on previous run. The first argument is the label, the second argument is the insert text.

```
\newcommand*{\cGlspformat}[2]{%
  \ifglshaslong{#1}{\Glstentrylongpl{#1}}{\Glstentryfirstplural{#1}}#2%
}
```

2.10 Loading files containing glossary entries

Glossary entries can be defined in an external file. These external files can contain `\newglossaryentry` and `\newacronym` commands.¹

```
\loadglsentries[<type>]{<filename>}
```

This command will input the file using `\input`. The optional argument specifies to which glossary the entries should be assigned if they haven't used the `type` key. If the optional argument is not specified, the default glossary is used. Only those entries used in the document (via `\glslink`, `\gls`, `\glsp1` and

¹and any other valid L^AT_EX code that can be used in the preamble.

uppercase variants or `\glsadd` and `\glsaddall` will appear in the glossary). The mandatory argument is the filename (with or without `.tex` extension).

```
\loadglsentries
  \newcommand*\loadglsentries}[2][\@gls@default]{%
    \let\@gls@default\glsdefaulttype
    \def\glsdefaulttype{#1}\input{#2}%
    \let\glsdefaulttype\@gls@default
  }
```

`\loadglsentries` can only be used in the preamble:

```
\@onlypreamble{\loadglsentries}
```

2.11 Using glossary entries in the text

Any term that has been defined using `\newglossaryentry` (or `\newacronym`) can be displayed in the text (i.e. outside of the glossary) using one of the commands defined in this section. Unless you use `\glslink`, the way the term appears in the text is determined by `\glsdisplayfirst` (if it is the first time the term has been used) or `\glsdisplay` (for subsequent use). Any formatting commands (such as `\textbf`) is governed by `\glstextformat`. By default this just displays the *link text* “as is”.

```
\glstextformat
  \newcommand*\glstextformat}[1]{#1}
```

`\glsentryfmt` As from version 3.11a, the way in which an entry is displayed is now governed by `\glsentryfmt`. This doesn't take any arguments. The required information is set by commands like `\gls`. This used to use the now deprecated `\glsdisplay` and `\glsdisplayfirst`. Replaced with `\glsgenentryfmt` in v4.50.

```
\newcommand*\glsentryfmt{\glsgenentryfmt}
```

`\glsgenentryfmt` Define a generic format that just uses the first, text, plural or first plural keys (or the custom text) with the insert text appended.

```
\newcommand*\glsgenentryfmt{%
  \ifdefempty\glscustomtext
  {%
    \glsifplural
  }
```

Plural form

```
\glscapscase
  }
```

Don't adjust case

```
\ifglsused\glslabel
  }
```

Subsequent use

```
\glsentryplural{\glslabel}\glsinsert  
}%  
{%
```

First use

```
\glsentryfirstplural{\glslabel}\glsinsert  
}%  
}%  
{%
```

Make first letter upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use.

```
\Glsentryplural{\glslabel}\glsinsert  
}%  
{%
```

First use

```
\Glsentryfirstplural{\glslabel}\glsinsert  
}%  
}%  
{%
```

Make all upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use

```
\glsuppercase{\glsentryplural{\glslabel}\glsinsert}%  
}%  
{%
```

First use

```
\glsuppercase{\glsentryfirstplural{\glslabel}\glsinsert}%  
}%  
}%  
}%  
{%
```

Singular form

```
\glscaps case  
{%
```

Don't adjust case

```
\ifglsused\glslabel  
{%
```

Subsequent use

```
\glsentrytext{\glslabel}\glsinsert  
}%  
{%
```

First use

```
\glsentryfirst{\glslabel}\glsinsert  
}%  
}%  
{%
```

Make first letter upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use

```
\Glsentrytext{\glslabel}\glsinsert  
}%  
{%
```

First use

```
\Glsentryfirst{\glslabel}\glsinsert  
}%  
}%  
{%
```

Make all upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use

```
\glsuppercase{\glsentrytext{\glslabel}\glsinsert}%  
}%  
{%
```

First use

```
\glsuppercase{\glsentryfirst{\glslabel}\glsinsert}%  
}%  
}%  
}%  
}%  
{%
```

Custom text provided in `\glsdisp`. (The insert is most likely to be empty at this point.)

```
\glscustomtext\glsinsert  
}%  
}
```

`\glsgenacfmt` Define a generic acronym format that uses the long and short keys (or their plurals) and `\acrfullformat`, `\firstacronymfont` and `\acronymfont`.

```
\newcommand*{\glsgenacfmt}{%  
  \ifdefempty\glscustomtext  
  {%  
    \ifglsused\glslabel  
    {%
```

Subsequent use:

```
\glsifplural  
{%
```

Subsequent plural form:

```
\glsupercase  
{%
```

Subsequent plural form, don't adjust case:

```
\acronymfont{\glsentryshortpl{\glslabel}}\glsinsert  
}%  
{%
```

Subsequent plural form, make first letter upper case:

```
\acronymfont{\Glsentryshortpl{\glslabel}}\glsinsert  
}%  
{%
```

Subsequent plural form, all caps:

```
\glsupercase  
{\acronymfont{\glsentryshortpl{\glslabel}}\glsinsert}%  
}%  
{%
```

Subsequent singular form

```
\glsupercase  
{%
```

Subsequent singular form, don't adjust case:

```
\acronymfont{\glsentryshort{\glslabel}}\glsinsert  
}%  
{%
```

Subsequent singular form, make first letter upper case:

```
\acronymfont{\Glsentryshort{\glslabel}}\glsinsert  
}%  
{%
```

Subsequent singular form, all caps:

```
\glsupercase  
{\acronymfont{\glsentryshort{\glslabel}}\glsinsert}%  
}%  
}%  
{%
```

First use:

```
\glsifplural  
{%
```

First use plural form:

```
\glsupercase  
{%
```


First use plural form, don't adjust case:

```
\genplacrfullformat{\glslabel}{\glsinsert}%  
}%  
{%
```

First use plural form, make first letter upper case:

```
\Genplacrfullformat{\glslabel}{\glsinsert}%  
}%  
{%
```

First use plural form, all caps:

```
\glsuppercase  
  {\genplacrfullformat{\glslabel}{\glsinsert}}%  
}%  
}%  
{%
```

First use singular form

```
\glsescapscase  
{%
```

First use singular form, don't adjust case:

```
\genacrfullformat{\glslabel}{\glsinsert}%  
}%  
{%
```

First use singular form, make first letter upper case:

```
\Genacrfullformat{\glslabel}{\glsinsert}%  
}%  
{%
```

First use singular form, all caps:

```
\glsuppercase  
  {\genacrfullformat{\glslabel}{\glsinsert}}%  
}%  
}%  
}%  
}%  
{%
```

User supplied text.

```
\glscustomtext  
}%  
}
```

```
\genacrfullformat{<label>}{<insert>}
```

\genacrfullformat

The full format used by \glsacrfmt (singular).

```
\newcommand*{\genacrfullformat}[2]{%  
  \glsentrylong{#1}#2\space
```

```
(\protect\firstacronymfont{\glsentryshort{#1}})%
}
```

`\Genacrfullformat`

```
\Genacrfullformat{<label>}{<insert>}
```

As above but makes the first letter upper case.

```
\newcommand*\Genacrfullformat[2]{%
  \protected@edef\gls@text{\genacrfullformat{#1}{#2}}%
  \expandafter\glsentencecase\expandafter{\gls@text}%
}
```

`\genplacrfullformat`

```
\genplacrfullformat{<label>}{<insert>}
```

The full format used by `\glsngenacfmt` (plural).

```
\newcommand*\genplacrfullformat[2]{%
  \glsentrylongpl{#1}#2\space
  (\protect\firstacronymfont{\glsentryshortpl{#1}})%
}
```

`\Genplacrfullformat`

```
\Genplacrfullformat{<label>}{<insert>}
```

As above but makes the first letter upper case.

```
\newcommand*\Genplacrfullformat[2]{%
  \protected@edef\gls@text{\genplacrfullformat{#1}{#2}}%
  \expandafter\glsentencecase\expandafter{\gls@text}%
}
```

`\glsdisplayfirst` `\glsdisplayfirst` deprecated in v3.11a (2013-10-15) and removed in v4.50. Use rollback if required.

`\glsdisplay` `\glsdisplay` deprecated in v3.11a (2013-10-15) and removed in v4.50. Use rollback if required.

`\defglsdisplay` `\defglsdisplay` deprecated in v3.11a (2013-10-15) and removed in v4.50. Use rollback if required.

`\defglsdisplayfirst` `\defglsdisplayfirst` deprecated in v3.11a (2013-10-15) and removed in v4.50. Use rollback if required.

2.11.1 Links to glossary entries

The links to glossary entries all have a first optional argument that can be used to change the format and counter of the associated entry number. Except for `\glslink` and `\glsdisp`, the commands like `\gls` have a final optional argument that can be used to insert additional text in the link (this will

usually be appended, but can be redefined using `\defglsentryfmt`). It goes against the L^AT_EX norm to have an optional argument after the mandatory arguments, but it makes more sense to write, say, `\gls{label}[’s]` rather than, say, `\gls[append=’s]{label}`. Since these control sequences are defined to include the final square bracket, spaces will be ignored after them. This is likely to lead to confusion as most users would not expect, say, `\gls{<label>}` to ignore following spaces, so `\new@ifnextchar` from the `amsgen` package is required.

The following keys can be used in the first optional argument. The `counter` key checks that the value is the name of a valid counter.

```
\define@key{glslink}{counter}{%
  \ifcsundef{c@#1}%
  {%
    \PackageError{glossaries}%
    {There is no counter called ‘#1’}%
    {%
      The counter key should have the name of a valid counter
      as its value%
    }%
  }%
  {%
    \def\@gls@counter{#1}%
  }%
}
```

The value of the `format` key should be the name of a command (without the initial backslash) that has a single mandatory argument which can be used to format the associated entry number.

```
\define@key{glslink}{format}{%
  \def\@glsnumberformat{#1}}
```

`s@glslink@hyper@update@hook`

```
\newcommand*{\@gls@glslink@hyper@update@hook}{}
```

The `hyper` key is a boolean key, it can either have the value `true` or `false`, and indicates whether or not to make a hyperlink to the relevant glossary entry. If `hyper` is `false`, an entry will still be made in the glossary, but the given text won’t be a hyperlink.

```
\define@boolkey{glslink}{hyper}[true]{\@gls@glslink@hyper@update@hook}
```

Initialise hyper key.

```
\ifdef{\hyperlink}{\KV@glslink@hypertrue}{\KV@glslink@hyperfalse}
```

Commands like `\gls` and `\glsdisp` unset the first use flag afterwards. Provide a way to localise this.

`\@gls@save@glslocal`

```
\newcommand*{\@gls@save@glslocal}{%
  \let\if@org@KV@glslink@local\ifKV@glslink@local
}
```

```

\@gls@restore@glslocal
\newcommand*{\@gls@restore@glslocal}{%
  \ifKV@glslink@local
    \let\@gls@do@glsunset@glslocalunset
  \else
    \let\@gls@do@glsunset@glsunset
  \fi
  \let\ifKV@glslink@local\if@org@KV@glslink@local
}

```

```

\@gls@do@glsunset
\newcommand*{\@gls@do@glsunset}[1]{\glsunset{#1}}

```

The local key is a boolean key. If true this indicates that commands such as `\gls` should only do a local reset rather than a global one.

```

\define@boolkey{glslink}{local}[true]{}
\@gls@save@glslocal

```

The original `\glsifhyper` command isn't particularly useful as it makes more sense to check the actual hyperlink setting rather than testing whether the starred or unstarred version has been used. Therefore, as from version 4.08, `\glsifhyper` is deprecated in favour of `\glsifhyperon`. In case there is a particular need to know whether the starred or unstarred version was used, provide a new command that determines whether the *-version, +-version or unmodified version was used.

```

\glslinkvar{<unmodified case>}{<star case>}{<plus case>}

```

`\glslinkvar` Initialise to unmodified case.

```

\newcommand*{\glslinkvar}[3]{#1}

```

`\glsifhyper` `\glsifhyper` deprecated in v4.08 (2014-07-30) and removed in v4.50.

`\@gls@hyp@opt` Used by the commands such as `\glslink` to determine whether to modify the hyper option.

```

\newcommand*{\@gls@hyp@opt}[1]{%
  \let\glslinkvar\@firstofthree
  \let\@gls@hyp@opt@cs#1\relax
  \ifstar{\s@gls@hyp@opt}%
  {\@ifnextchar+{\@firstoftwo{\p@gls@hyp@opt}}{#1}}%
}

```

`\s@gls@hyp@opt` Starred version

```

\newcommand*{\s@gls@hyp@opt}[1] []{%
  \let\glslinkvar\@secondofthree
  \@gls@hyp@opt@cs[hyper=false,#1]}

```

`\p@glshyp@opt` Plus version

```
\newcommand*\p@glshyp@opt}[1] [] {%  
  \let\glslinkvar\@thirdofthree  
  \@glshyp@opt@cs[hyper=true,#1]}
```

Syntax:

```
\glslink[<options>]{<label>}{<text>}
```

Display *<text>* in the document, and add the entry information for *<label>* into the relevant glossary. The optional argument should be a key value list using the `glslink` keys defined above.

There is also a starred version:

```
\glslink*[<options>]{<label>}{<text>}
```

which is equivalent to `\glslink[hyper=false,<options>]{<label>}{<text>}`

First determine which version is being used:

`\glslink`

```
\newrobustcmd*\glslink}{%  
  \@glshyp@opt\@gls@link  
}
```

`\@gls@link` The main part of the business is in `\@gls@link` which shouldn't check if the term is defined as it's called by `\gls` etc which also perform that check.

```
\newcommand*\@gls@link}[3] [] {%  
  \glsdoifexistsordo{#2}%  
  {%  
    \let\do@gls@link@checkfirsthyper\relax  
    \@gls@link[#1]{#2}{#3}%  
  }-%  
}
```

Display the specified text. (The entry doesn't exist so there's nothing to link it to.)

```
  \glstextformat{#3}%  
}%  
  
  \glspostlinkhook  
}
```

`\Glslink` Provide a sentence-case version in order to set up a map.

```
\newrobustcmd*\Glslink}{%  
  \@glshyp@opt\@Gls@link  
}
```

```

\newcommand*{\@Gls@link}[3][\%
  \@gls@link[#1]{#2}{\glsentencecase{#3}}%
}
\glsmfuaddmap{\glslink}{\Glslink}

\glspostlinkhook
\newcommand*{\glspostlinkhook}{}

\@gls@link@checkfirsthyper Check for first use and switch off hyper key if hyperlink not wanted. (Should be
off if first use and hyper=false is on or if first use and both the entry is in an
acronym list and the acrfootnote setting is on.) This assumes the glossary type
is stored in \glsstype and the label is stored in \glslabel.
\newcommand*{\@gls@link@checkfirsthyper}{%
  \ifglsused{\glslabel}%
  {%
  }%
  {%
    \gls@checkisacronymlist\glsstype
    \ifglshyperfirst
      \if@glsisacronymlist
        \ifglsacrfootnote
          \KV@glslink@hyperfalse
        \fi
      \fi
    \else
      \KV@glslink@hyperfalse
    \fi
  }%
}
Allow user to hook into this
\glslinkcheckfirsthyperhook
}

\glslinkcheckfirsthyperhook Allow user to hook into the \@gls@link@checkfirsthyper macro
\newcommand*{\glslinkcheckfirsthyperhook}{}

\glslinkpostsetkeys
\newcommand*{\glslinkpostsetkeys}{}

\glsifhyperon Check the value of the hyper key:
\newcommand{\glsifhyperon}[2]{\ifKV@glslink@hyper#1\else#2\fi}

\do@glsdisablehyperinlist Disable hyperlink if in the “nohyper” list.
\newcommand*{\do@glsdisablehyperinlist}{%
  \expandafter\DTLifinlist\expandafter{\glsstype}{\@gls@nohyperlist}%
  {\KV@glslink@hyperfalse}{}%
}

\gls@setdefault@glslink@opts Hook to set default options for \@glslink.
\newcommand*{\gls@setdefault@glslink@opts}{}

```

`\@gls@link`

```
\def\@gls@link[#1]#2#3{%
```

Inserting `\leavevmode` suggested by Donald Arseneau (avoids problem with `tabularx`).

```
\leavevmode
```

```
\protected@edef\glslabel{\glsdetoklabel{#2}}%
```

Save options in `\@gls@link@opts` and label in `\@gls@link@label`

```
\def\@gls@link@opts{#1}%
```

```
\let\@gls@link@label\glslabel
```

```
\def\@glsnumberformat{glsnumberformat}%
```

```
\protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
```

If this is in one of the “nohypertypes” glossaries, suppress the hyperlink by default

```
\protected@edef\glsstype{\csname glo@\glslabel @type\endcsname}%
```

Save original setting

```
\let\org@ifKV@glslink@hyper\ifKV@glslink@hyper
```

Save original setting of local key.

```
\@gls@save@glslocal
```

Set defaults:

```
\@gls@setdefault@glslink@opts
```

Switch off hyper setting if the glossary type has been identified in `nohyperlist`.

```
\do@gls@disablehyperinlist
```

Macros must set this before calling `\@gls@link`. The commands that check the first use flag should set this to `\@gls@link@checkfirsthyper` otherwise it should be set to `\relax`.

```
\do@gls@link@checkfirsthyper
```

```
\setkeys{glslink}{#1}%
```

Add a hook for the user to customise things after the keys have been set.

```
\glslinkpostsetkeys
```

Store the entry’s counter in `\theglsentrycounter`

```
\@gls@saveentrycounter
```

Define sort key if necessary:

```
\@gls@setsort{\glslabel}%
```

(De-tok’ing done by `\@do@wrglossary`)

```
\glsencapwrcontent{\@do@wrglossary{#2}}%
```

```
\ifKV@glslink@hyper
```

```
\@glslink{\glslinkprefix\glslabel}{\glsformat{#3}}%
```

```
\else
```

```
\glsdonohyperlink{\glslinkprefix\glslabel}{\glsformat{#3}}%
```

```
\fi
```

Restore original setting

```
\let\ifKV@glslink@hyper\org@ifKV@glslink@hyper
\@gls@restore@glsllocal
}
```

`\glsencapwrcontent` This command is also provided by glossaries-extra v1.49. It's purpose is to resolve [issue #189](#).

```
\newcommand*{\glsencapwrcontent}[1]{\#1}
```

`\glolinkprefix`

```
\newcommand*{\glolinkprefix}{glo:}
```

`\glsentrycounter` Set default value of entry counter

```
\def\glsentrycounter{\glscounter}%
```

`\@gls@saveentrycounter` Need to check if using equation counter in align environment:

```
\newcommand*{\@gls@saveentrycounter}{%
\def\@gls@Hcounter{}}
```

Are we using equation counter?

```
\ifthenelse{\equal{\@gls@counter}{equation}}{%
{
```

If we're in align environment, `\xatlevel@` will be defined. (Can't test for `\@currenvir` as may be inside an inner environment.)

```
\ifcsundef{xatlevel@}%
{%
\edef\theglsentrycounter{\expandafter\noexpand
\csname the\@gls@counter\endcsname}%
}%
{%
\ifx\xatlevel@\@empty
\edef\theglsentrycounter{\expandafter\noexpand
\csname the\@gls@counter\endcsname}%
\else
\savecounters@
\advance\c@equation by 1\relax
\edef\theglsentrycounter{\csname the\@gls@counter\endcsname}%
}
```

Check if hyperref version of this counter

```
\ifcsundef{theH\@gls@counter}%
{%
\def\@gls@Hcounter{\theglsentrycounter}%
}%
{%
\def\@gls@Hcounter{\csname theH\@gls@counter\endcsname}%
}%
\protected@edef\theglsentrycounter{\@gls@Hcounter}%
\restorecounters@
\fi
```



```

    }%
  }%
  {%

```

Not using equation counter so no special measures:

```

\edef\theglentrycounter{\expandafter\noexpand
\csname the\@gls@counter\endcsname}%
}%

```

Check if hyperref version of this counter

```

\ifx\@gls@Hcounter\@empty
\ifcsundef{theH\@gls@counter}%
{%
\def\theHglentrycounter{\theglentrycounter}%
}%
{%
\protected@edef\theHglentrycounter{\expandafter\noexpand
\csname theH\@gls@counter\endcsname}%
}%
\fi
}

```

`\@set@glo@numformat` Set the formatting information in the format required by `makeindex`. The first argument is the format specified by the user (via the format key), the second argument is the name of the counter used to indicate the location, the third argument is a control sequence which stores the required format and the fourth argument (new to v3.0) is the hyper-prefix.

```

\def\@set@glo@numformat#1#2#3#4{%
\expandafter\@glo@check@mkidxrangear#3\@nil
\protected@edef#1{%
\@glo@prefix setentrycounter[#4]{#2}%
\expandafter\string\csname\@glo@suffix\endcsname
}%
\@gls@checkmkidxchars#1%
}

```

Check to see if the given string starts with a (or). If it does set `\@glo@prefix` to the starting character, and `\@glo@suffix` to the rest (or `glsnumberformat` if there is nothing else), otherwise set `\@glo@prefix` to nothing and `\@glo@suffix` to all of it.

```

\def\@glo@check@mkidxrangear#1#2\@nil{%
\if#1(\relax
\def\@glo@prefix{(%}
\if\relax#2\relax
\def\@glo@suffix{glsnumberformat}%
\else
\def\@glo@suffix{#2}%
\fi
\else

```

```

\if#1)\relax
  \def\@glo@prefix{)}%
  \if\relax#2\relax
    \def\@glo@suffi{x{glsnumberformat}}%
  \else
    \def\@glo@suffi{x{#2}}%
  \fi
\else
  \def\@glo@prefix{}\def\@glo@suffi{x{#1#2}}%
\fi
\fi}

```

`\@gls@escbsdq` Escape backslashes and double quote marks. The argument must be a control sequence.

```

\newcommand*\@gls@escbsdq}[1]{%
  \def\@gls@checkedmkidx{}%
  \let\gls@xdystring=#1\relax
  \@onelevel@sanitize\gls@xdystring
  \edef\do@gls@xdycheckbackslash{%
    \noexpand\@gls@xdycheckbackslash\gls@xdystring\noexpand\@nil
    \@backslashchar\@backslashchar\noexpand\@null}%
  \do@gls@xdycheckbackslash
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
  \def\@gls@checkedmkidx{}%
  \expandafter\@gls@xdycheckquote\gls@xdystring\@nil""\@null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%

```

Unsanitize `\gls@numberpage`, `\gls@alphpage`, `\gls@Alphpage` and `\gls@romanpage` (thanks to David Carlisle for the suggestion.) Skip if `esclocations=false`.

```

\ifglsclocations
  \@for\@gls@tmp:=\gls@protected@pagefmts\do
  {%
    \edef\@gls@sanitized@tmp{\expandafter\@gobble\string\\ \expandonce\@gls@tmp}%
    \@onelevel@sanitize\@gls@sanitized@tmp
    \edef\gls@dostubst{%
      \noexpand\DTLsubstituteall\noexpand\gls@xdystring
      {\@gls@sanitized@tmp}{\expandonce\@gls@tmp}%
    }%
    \gls@dostubst
  }%
\fi

```

Assign to required control sequence

```

\let#1=\gls@xdystring
}

```

Catch special characters (argument must be a control sequence):

```

\@gls@checkmkidxchars
\newcommand*\@gls@checkmkidxchars}[1]{%

```

```

\ifglxindy
  \@gls@escbsdq{#1}%
\else
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkquote#1\@nil""\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkescquote#1\@nil""\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkescactual#1\@nil"??\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkactual#1\@nil??\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkbar#1\@nil||\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkescbar#1\@nil|||\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checklevel#1\@nil!!\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%

  \def\@gls@checkedmkidx{%
  \expandafter\@gls@checkesclevel#1\@nil!!\!\null
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \def\@gls@checkedmkidx{%
  \edef\@do@gls@checkesc{%
    \noexpand\@gls@checkesc\expandonce{#1}\noexpand\@nil
    \@backslashchar\@backslashchar\noexpand\@nil
  }%
  \@do@gls@checkesc
  \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
  \fi
}

```

Update the control sequence and strip trailing \@nil:

```

\@gls@updatechecked
  \def\@gls@updatechecked#1\@nil#2{\def#2{#1}}

\@gls@tmpb Define temporary token
  \newtoks\@gls@tmpb

\@gls@checkquote Replace " with "" since " is a makeindex special character.
  \def\@gls@checkquote#1"#2"#3\@nil{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@=#1}%

```

```

\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar\@gls@quotechar\@gls@quotechar}%
\def\@gls@checkquote{\@gls@checkquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkquote{\@gls@checkquote#2""\null}%
\else
\def\@gls@checkquote{\@gls@checkquote#2"#3\null}%
\fi
\fi
\@gls@checkquote
}

```

`\@gls@checkescquote` Do the same for `\`:

```

\def\@gls@checkescquote#1\#2\#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@quotechar
\@gls@quotechar\string\@\@gls@quotechar}%
\def\@gls@checkescquote{\@gls@checkescquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkescquote{\@gls@checkescquote#2\""\null}%
\else
\def\@gls@checkescquote{\@gls@checkescquote#2\#3\null}%
\fi
\fi
\@gls@checkescquote
}

```

`\@gls@checkescactual` Similarly for `\?` (which is replaces `@` as `makeindex`'s special character):

```

\def\@gls@checkescactual#1\?#2\?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%

```

```

\toks@={#1}%
\ifx\null#2\null
  \ifx\null#3\null
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
    \def\@gls@checkescactual{\relax}%
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar
\@gls@quotechar\string"\@gls@actualchar}%
    \def\@gls@checkescactual{\@gls@checkescactual#3\null}%
  \fi
\else
  \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar}%
  \ifx\null#3\null
    \def\@gls@checkescactual{\@gls@checkescactual#2\?\?\null}%
  \else
    \def\@gls@checkescactual{\@gls@checkescactual#2\?#3\null}%
  \fi
\fi
\@gls@checkescactual
}

```

\@gls@checkescbar Similarly for \|:

```

\def\@gls@checkescbar#1\|#2\|#3\null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\null#2\null
    \ifx\null#3\null
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@gls@checkescbar{\relax}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@encapchar
\@gls@quotechar\string"\@gls@encapchar}%
      \def\@gls@checkescbar{\@gls@checkescbar#3\null}%
    \fi
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@encapchar}%
    \ifx\null#3\null
      \def\@gls@checkescbar{\@gls@checkescbar#2\|\|\null}%
    \else
      \def\@gls@checkescbar{\@gls@checkescbar#2\|#3\null}%
    \fi
  \fi
\@gls@checkescbar
}

```

\@gls@checkesclevel Similarly for \!:

```

\def\@gls@checkesclevel#1\!#2\!#3\null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\null#2\null
    \ifx\null#3\null
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@gls@checkesclevel{\relax}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
        \@gls@quotechar\string"\@gls@levelchar
        \@gls@quotechar\string"\@gls@levelchar}%
      \def\@gls@checkesclevel{\@gls@checkesclevel#3\null}%
    \fi
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
      \@gls@quotechar\string"\@gls@levelchar}%
    \ifx\null#3\null
      \def\@gls@checkesclevel{\@gls@checkesclevel#2\!\!\null}%
    \else
      \def\@gls@checkesclevel{\@gls@checkesclevel#2\!#3\null}%
    \fi
  \fi
  \@gls@checkesclevel
}

```

\@gls@checkbar and for |:

```

\def\@gls@checkbar#1|#2|#3\null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\null#2\null
    \ifx\null#3\null
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@gls@checkbar{\relax}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
        \@gls@quotechar\@gls@encapchar\@gls@quotechar\@gls@encapchar}%
      \def\@gls@checkbar{\@gls@checkbar#3\null}%
    \fi
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
      \@gls@quotechar\@gls@encapchar}%
    \ifx\null#3\null
      \def\@gls@checkbar{\@gls@checkbar#2||\null}%
    \else
      \def\@gls@checkbar{\@gls@checkbar#2|#3\null}%
    \fi
  \fi
  \@gls@checkbar
}

```

\@gls@checklevel and for !:

```
\def\@gls@checklevel#1!#2!#3\null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\null#2\null
    \ifx\null#3\null
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@@gls@checklevel{\relax}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
        \@gls@quotechar\@gls@levelchar\@gls@quotechar\@gls@levelchar}%
      \def\@@gls@checklevel{\@gls@checklevel#3\null}%
    \fi
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
      \@gls@quotechar\@gls@levelchar}%
    \ifx\null#3\null
      \def\@@gls@checklevel{\@gls@checklevel#2!\null}%
    \else
      \def\@@gls@checklevel{\@gls@checklevel#2!#3\null}%
    \fi
  \fi
  \@@gls@checklevel
}
```

\@gls@checkactual and for ?:

```
\def\@gls@checkactual#1?#2?#3\null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\null#2\null
    \ifx\null#3\null
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@@gls@checkactual{\relax}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
        \@gls@quotechar\@gls@actualchar\@gls@quotechar\@gls@actualchar}%
      \def\@@gls@checkactual{\@gls@checkactual#3\null}%
    \fi
  \else
    \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
      \@gls@quotechar\@gls@actualchar}%
    \ifx\null#3\null
      \def\@@gls@checkactual{\@gls@checkactual#2??\null}%
    \else
      \def\@@gls@checkactual{\@gls@checkactual#2?#3\null}%
    \fi
  \fi
  \@@gls@checkactual
}
```

\@gls@checkesc and for \:

```
\bgroup
\catcode'\|0\relax
\catcode'\|12\relax
\gdef|\@gls@checkesc#1\#2\#3|null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx|null#2|null
    \ifx|null#3|null
      \edef|\@gls@checkedmkidx{\the|\@gls@tmpb\the|\toks@}%
      \def|\@gls@checkesc{\relax}%
    \else
      \edef|\@gls@checkedmkidx{\the|\@gls@tmpb\the|\toks@
        \@gls@quotechar|\backslashchar|\@gls@quotechar|\backslashchar}%
      \def|\@gls@checkesc{\@gls@checkesc#3|null}%
    \fi
  \else
    \edef|\@gls@checkedmkidx{\the|\@gls@tmpb\the|\toks@
      \@gls@quotechar|\backslashchar}%
    \ifx|null#3|null
      \def|\@gls@checkesc{\@gls@checkesc#2\|\null}%
    \else
      \def|\@gls@checkesc{\@gls@checkesc#2\#3|null}%
    \fi
  \fi
  |\@gls@checkesc
}
```

\@gls@xdycheckquote As before but for use with xindy

```
\def|\@gls@xdycheckquote#1"#2"#3|null{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#1}%
  \ifx\|null#2\|null
    \ifx\|null#3\|null
      \edef|\@gls@checkedmkidx{\the\@gls@tmpb\the\|toks@}%
      \def|\@gls@xdycheckquote{\relax}%
    \else
      \edef|\@gls@checkedmkidx{\the\@gls@tmpb\the\|toks@
        \|string\|"\|string\|"}%
      \def|\@gls@xdycheckquote{\@gls@xdycheckquote#3\|null}%
    \fi
  \else
    \edef|\@gls@checkedmkidx{\the\@gls@tmpb\the\|toks@
      \|string\|"}%
    \ifx\|null#3\|null
      \def|\@gls@xdycheckquote{\@gls@xdycheckquote#2""\|null}%
    \else
      \def|\@gls@xdycheckquote{\@gls@xdycheckquote#2"#3\|null}%
    \fi
}
```



```

    \fi
  \@gls@xdycheckquote
}

```

\gls@xdycheckbackslash Need to escape all backslashes for xindy. Define command that will define

```

\@gls@xdycheckbackslash
\edef\def@gls@xdycheckbackslash{%
\noexpand\def\noexpand\@gls@xdycheckbackslash##1\@backslashchar
##2\@backslashchar##3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter
{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={##1}%
\noexpand\ifx\noexpand\null##2\noexpand\null
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar\@backslashchar\@backslashchar}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar}%
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
\@backslashchar\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
##3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@xdycheckbackslash
}%
}

```

Now go ahead and define \gls@xdycheckbackslash

```

\def@gls@xdycheckbackslash

```

\glsdohypertarget

```

\newlength@gls@tmplen
\newcommand*{\glsdohypertarget}[2]{%
\glsdoshowtarget{#1}%
}%

```

```

        \glsmeasureheight{\gls@tmplen}{#2}%
        \glsdohypertargethook{#1}{#2}%
        \raisebox{\gls@tmplen}{\hypertarget{#1}{}}%
        #2%
    }%
}

```

```

\glsdohypertargethook Hook for \glsdohypertarget
    \newcommand*\glsdohypertargethook[2]{}

```

`\glslabelhypertarget` Provided for use in the definition of `\glsdohypertargethook` if required.

```

\NewDocumentCommand\glslabelhypertarget{mm}{%
\protected@write\@auxout
{\glslabelhypertargetdefs}%
{%
\string\newlabel
{\glslabelhypertargetprefix#1}%
{%
{\glslabelhypertargetvalue}{\thepage}{#2}{#1}{}}%
}%
}

```

```

\ExplSyntaxOn

```

`\glslabelhypertargetvalue`

```

\newcommand\glslabelhypertargetvalue{
\bool_lazy_and:nnT
{ \tl_if_exist_p:N \glscurrententrylabel }
{ \bool_not_p:n { \tl_if_empty_p:N \glscurrententrylabel } }
{
\glsentryname \glscurrententrylabel
}
}
\ExplSyntaxOff

```

`\glslabelhypertargetprefix`

```

\newcommand*\glslabelhypertargetprefix{}

```

`\glslabelhypertargetdefs`

```

\newcommand*\glslabelhypertargetdefs{%
\let\glossentryname\glsentryname
\let\glossentrydesc\glsentrydesc
\let\glossentrysymbol\glsentrysymbol
\let\Glossentryname\glsentryname
\let\Glossentrydesc\glsentrydesc
\let\Glossentrysymbol\glsentrysymbol
\let\glossentrynameother\@gls@entry@field
}

```

```

\glsdohyperlink
  \newcommand*{\glsdohyperlink}[2]{%
    \glsdoshowtarget{#1}%
    {%
      \glsdohyperlinkhook{#1}{#2}%
      \hyperlink{#1}{#2}%
    }%
  }

```

```

\glsdohyperlinkhook Hook for \glsdohyperlink
  \newcommand*{\glsdohyperlinkhook}[2]{}

```

```

\glsdonohyperlink
  \newcommand*{\glsdonohyperlink}[2]{#2}

```

`\@glslink` If `\hyperlink` is not defined `\@glslink` ignores its first argument and just does the second argument, otherwise it is equivalent to `\hyperlink`.

```

\ifcsundef{hyperlink}%
{%
  \let\@glslink\glsdonohyperlink
}%
{%
  \let\@glslink\glsdohyperlink
}

```

`\@glstarget` If `\hypertarget` is not defined, `\@glstarget` ignores its first argument and just does the second argument, otherwise it is equivalent to `\hypertarget`.

```

\ifcsundef{hypertarget}%
{%
  \let\@glstarget\@secondoftwo
}%
{%
  \let\@glstarget\glsdohypertarget
}

```

Glossary hyperlinks can be disabled using `\glsdisablehyper` (effect can be localised):

```

\glsdisablehyper
  \newcommand{\glsdisablehyper}{%
    \KV@glslink@hyperfalse
    \let\@glslink\glsdonohyperlink
    \let\@glstarget\@secondoftwo
  }

```

Glossary hyperlinks can be enabled using `\glsenablehyper` (effect can be localised):

`\glsenablehyper`

```
\newcommand{\glsenablehyper}{%
  \KV@glslink@hypertrue
  \let\@glslink\glsdohyperlink
  \let\@gls@target\glsdohypertarget
}
```

Provide some convenience commands if not already defined:

```
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
```

Syntax:

```
\gls[options]{label}[insert text]
```

Link to glossary entry using singular form. The link text is taken from the value of the text or first keys used when the entry was defined.

The first optional argument is a key-value list, the same as `\glslink`, the mandatory argument is the entry label. After the mandatory argument, there is another optional argument to insert extra text in the link text (the location of the inserted text is governed by `\glsdisplay` and `\glsdisplayfirst`). As with `\glslink` there is a starred version which is the same as the unstarred version but with the `hyper` key set to `false`. (Additional options can also be specified in the first optional argument.)

First determine which version is being used:

`\gls`

```
\newrobustcmd*{\gls}{\@gls@hyp@opt\@gls}
```

Defined the un-starred form. Need to determine if there is a final optional argument

`\@gls`

```
\newcommand*{\@gls}[2][ ]{%
  \new@ifnextchar[{\@gls@{#1}{#2}}{\@gls@{#1}{#2}[]}%
}
```

`\@gls@` Read in the final optional argument:

```
\def\@gls@#1#2[#3]{%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper

    \let\glsifplural\@secondoftwo
    \let\gls@scaps@case\@firstofthree
    \let\gls@customtext\@empty
  }
  \def\glsinsert{#3}%
}
```

Determine what the link text should be (this is stored in `\@glo@text`) Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link`. If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%
}%

\glspostlinkhook
}
```

`\Gls` behaves like `\gls`, but the first letter of the link text is converted to uppercase (note that if the first letter has an accent, the accented letter will need to be grouped when you define the entry). It is mainly intended for terms that start a sentence:

`\Gls`

```
\newrobustcmd*{\Gls}{\@gls@hyp@opt\@Gls}
```

Add sentence case mapping.

```
\glsmfuaddmap{\gls}{\Gls}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Gls}[2][ ]{%
  \new@ifnextchar[{\@Gls@{#1}{#2}}{\@Gls@{#1}{#2} [ ]}%
}
```

`\@Gls@` Read in the final optional argument:

```
\def\@Gls@#1#2[#3]{%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper

    \let\glsifplural\@secondoftwo
    \let\glsifcaps\@secondofthree
    \let\glsifcustomtext\@empty
    \def\glsinsert{#3}%
  }
```

Determine what the link text should be (this is stored in `\@glo@text`) Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link` If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%  
}%  
  
\glspostlinkhook  
}
```

\GLS behaves like \gls, but the link text is converted to uppercase:

```
\GLS  
  
\newrobustcmd*{\GLS}{\@gls@hyp@opt\@GLS}  
\glsmfublocker{\GLS}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\GLS}[2][ ]{%  
  \new@ifnextchar[{\@GLS@{#1}{#2}}{\@GLS@{#1}{#2}[ ]}%  
}
```

\@GLS@ Read in the final optional argument:

```
\def\@GLS@#1#2[#3]{%  
  \glsdoifexists{#2}%  
  {%  
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper  
  
    \let\glsifplural\@secondoftwo  
    \let\gls caps case\@thirdofthree  
    \let\gls custom text\@empty  
    \def\glsinsert{#3}%  
  }
```

Determine what the link text should be (this is stored in \@glo@text). Note that \@gls@link sets \gls@type.

```
\def\@glo@text{\csname gls@\gls@type @entryfmt\endcsname}%
```

Call \@gls@link If footnote package option has been used and the glossary type is \acronym type, suppress hyperlink for first use. Likewise if the hyperfirst=false package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%  
}%  
  
\glspostlinkhook  
}
```

\glspl behaves in the same way as \gls except it uses the plural form.

```
\glspl  
  
\newrobustcmd*{\glspl}{\@gls@hyp@opt\@glspl}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glspl}[2] [] {%
  \new@ifnextchar[{\@glspl@{#1}{#2}}{\@glspl@{#1}{#2} []}%
}
```

`\@glspl@` Read in the final optional argument:

```
\def\@glspl@#1#2[#3] {%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper

    \let\glsifplural\@firstoftwo
    \let\glsescapscase\@firstofthree
    \let\glscustomtext\@empty
    \def\glsinsert{#3}%

```

Determine what the link text should be (this is stored in `\@glo@text`) Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link`. If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%
}%
```

```
\glspostlinkhook
}
```

`\Glspl` behaves in the same way as `\glspl`, except that the first letter of the link text is converted to uppercase (as with `\Gls`, if the first letter has an accent, it will need to be grouped).

`\Glspl`

```
\newrobustcmd*{\Glspl}{\@gls@hyp@opt\@Glspl}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glspl}{\Glspl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glspl}[2] [] {%
  \new@ifnextchar[{\@Glspl@{#1}{#2}}{\@Glspl@{#1}{#2} []}%
}
```

`\@Glspl@` Read in the final optional argument:

```
\def\@Glspl@#1#2[#3]{%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper

    \let\glsifplural\@firstoftwo
    \let\glscapscase\@secondofthree
    \let\glscustomtext\@empty
    \def\glsinsert{#3}%
```

Determine what the link text should be (this is stored in `\@glo@text`). This needs to be expanded so that the `\@glo@text` can be passed to `\xmakefirstuc`. Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link`. If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%
}%

\glspostlinkhook
}
```

`\GLSp1` behaves like `\glspl` except that all the link text is converted to uppercase.

`\GLSp1`

```
\newrobustcmd*{\GLSp1}{\@gls@hyp@opt\@GLSp1}
\glsmfublocker{\GLSp1}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSp1}[2][ ]{%
  \new@ifnextchar[{\@GLSp1@{#1}{#2}}{\@GLSp1@{#1}{#2}[ ]}%
}
```

`\@GLSp1` Read in the final optional argument:

```
\def\@GLSp1@#1#2[#3]{%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper

    \let\glsifplural\@firstoftwo
    \let\glsapspace\@thirdofthree
    \let\glscustomtext\@empty
    \def\glsinsert{#3}%
```


Determine what the link text should be (this is stored in `\@glo@text`) Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link`. If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%
}%
```

```
\glspostlinkhook
}
```

`\glsdisp` `\glsdisp[options]{label}{text}` This is like `\gls` except that the link text is provided. This differs from `\glslink` in that it uses `\glsdisplay` or `\glsdisplayfirst` and unsets the first use flag.

First determine if we are using the starred form:

```
\newrobustcmd*\@glsdisp{\@gls@hyp@opt\@glsdisp}
```

Defined the un-starred form.

```
\@glsdisp
```

```
\newcommand*\@glsdisp[3] [] {%
\glsdoifexists{#2}{%
```

```
\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
```

```
\let\glsifplural\@secondoftwo
```

```
\let\glsifscapscase\@firstofthree
```

```
\def\glscustomtext{#3}%
```

```
\def\glsinsert{}%
```

Determine what the link text should be (this is stored in `\@glo@text`) Note that `\@gls@link` sets `\glstype`.

```
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
```

Call `\@gls@link`. If footnote package option has been used and the glossary type is `\acronymtype`, suppress hyperlink for first use. Likewise if the `hyperfirst=false` package option is used.

```
\@gls@link[#1]{#2}{\@glo@text}%
```

Indicate that this entry has now been used

```
\@gls@do@glsunset{#2}%
}%
```

```
\glspostlinkhook
}
```

`\Glsdisp` Provide a sentence-case version to make it easier to map.
`\newrobustcmd*{\Glsdisp}{\@gls@hyp@opt\@Glsdisp}`

`\@Glsdisp`
`\newcommand*{\@Glsdisp}[3] [] {%`
`\@glsdisp[#1]{#2}{\glsentencecase{#3}}%`
`}`
`\glsmfuaddmap{\glsdisp}{\Glsdisp}`

`\@gls@link@nocheckfirsthyper` Instead of just setting `\do@gls@link@checkfirsthyper` to `\relax` in `\@gls@field@link`, set it to `\@gls@link@nocheckfirsthyper` in case some other action needs to take place.
`\newcommand*{\@gls@link@nocheckfirsthyper}{}%`

`\@gls@field@link{<options>}{<label>}{<link text>}`

`\@gls@field@link`

```
\newcommand{\@gls@field@link}[3] {%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \@gls@link[#1]{#2}{#3}%
  }%

  \glspostlinkhook
}
```

`\gls`text behaves like `\gls` except it always uses the value given by the text key and it doesn't mark the entry as used.

`\gls`text
`\newrobustcmd*{\gls}[\@gls@hyp@opt\@gls]`

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@gls}[2] [] {%
  \new@ifnextchar[{\@gls@{#1}{#2}}{\@gls@{#1}{#2} []}]}
```

Read in the final optional argument:

```
\def\@gls@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsentrytext{#2}#3}%
}
```

`\GLStext` behaves like `\gls`text except the text is converted to uppercase.

`\GLStext`
`\newrobustcmd*{\GLStext}{\@gls@hyp@opt\@GLStext}`
`\glsmfublocker{\GLStext}`

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\GLStext}[2] [] {%
  \new@ifnextchar[{\@GLStext@{#1}{#2}}{\@GLStext@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLStext@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrytext{#2}#3}}%
}
```

`\GLstext` behaves like `\glsstext` except that the first letter of the text is converted to uppercase.

`\GLstext`

```
\newrobustcmd*{\GLstext}{\@gls@hyp@opt\@GLstext}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsstext}{\GLstext}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\Glsfirst}[2] [] {%
  \new@ifnextchar[{\@Glsfirst@{#1}{#2}}{\@Glsfirst@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsfirst@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentrytext{#2}#3}%
}
```

`\Glsfirst` behaves like `\gls` except it always uses the value given by the first key and it doesn't mark the entry as used.

`\Glsfirst`

```
\newrobustcmd*{\Glsfirst}{\@gls@hyp@opt\@Glsfirst}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\glsfirst}[2] [] {%
  \new@ifnextchar[{\@glsfirst@{#1}{#2}}{\@glsfirst@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsfirst@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
```

`\Glsfirst` behaves like `\glsfirst` except it displays the first letter in uppercase.

`\Glsfirst`

```
\newrobustcmd*{\Glsfirst}{\@gls@hyp@opt\@Glsfirst}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsfirst}{\Glsfirst}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\Glsfirst}[2] [] {%
  \new@ifnextchar[{\@Glsfirst@{#1}{#2}}{\@Glsfirst@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsfirst@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentryfirst{#2}#3}%
}
```

`\GLSfirst` behaves like `\Glsfirst` except it displays the text in uppercase.

`\GLSfirst`

```
\newrobustcmd*{\GLSfirst}{\@gls@hyp@opt\@GLSfirst}
\glsmfublocker{\GLSfirst}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSfirst}[2] [] {%
  \new@ifnextchar[{\@GLSfirst@{#1}{#2}}{\@GLSfirst@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSfirst@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsuppercase{\Glsentryfirst{#2}#3}}%
}
```

`\glsplural` behaves like `\gls` except it always uses the value given by the plural key and it doesn't mark the entry as used.

`\glsplural`

```
\newrobustcmd*{\glsplural}{\@gls@hyp@opt\@glsplural}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsplural}[2] [] {%
  \new@ifnextchar[{\@glsplural@{#1}{#2}}{\@glsplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsplural@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentryplural{#2}#3}%
}
```

`\Glsplural` behaves like `\glsplural` except that the first letter is converted to uppercase.

`\Glsplural`

```
\newrobustcmd*{\Glsplural}{\@gls@hyp@opt\@Glsplural}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsplural}{\Glsplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsplural}[2] []{%
  \new@ifnextchar[{\@Glsplural@{#1}{#2}}{\@Glsplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsplural@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsentryplural{#2}#3}%
}
```

\GLSplural behaves like \glsplural except that the text is converted to uppercase.

\GLSplural

```
\newrobustcmd*{\@GLSplural}{\@gls@hyp@opt\@GLSplural}
\glsmfublocker{\@GLSplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSplural}[2] []{%
  \new@ifnextchar[{\@GLSplural@{#1}{#2}}{\@GLSplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSplural@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@glsentryplural{#2}#3}%
}
```

\glsfirstplural behaves like \gls except it always uses the value given by the firstplural key and it doesn't mark the entry as used.

\glsfirstplural

```
\newrobustcmd*{\@glsfirstplural}{\@gls@hyp@opt\@glsfirstplural}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsfirstplural}[2] []{%
  \new@ifnextchar[{\@glsfirstplural@{#1}{#2}}{\@glsfirstplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsfirstplural@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsentryfirstplural{#2}#3}%
}
```

\Glsfirstplural behaves like \glsfirstplural except that the first letter is converted to uppercase.

\Glsfirstplural

```
\newrobustcmd*{\@Glsfirstplural}{\@gls@hyp@opt\@Glsfirstplural}
```

Add sentence case mapping.

```
\glsmfuaddmap{\@glsfirstplural}{\@Glsfirstplural}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsfirstplural}[2] []{%  
  \new@ifnextchar[{\@Glsfirstplural@{#1}{#2}}{\@Glsfirstplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsfirstplural@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@Glsentryfirstplural{#2}#3}%  
}
```

`\GLSfirstplural` behaves like `\glsfirstplural` except that the link text is converted to uppercase.

`\GLSfirstplural`

```
\newrobustcmd*{\GLSfirstplural}{\@gls@hyp@opt\@GLSfirstplural}  
\glsmfublocker{\GLSfirstplural}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSfirstplural}[2] []{%  
  \new@ifnextchar[{\@GLSfirstplural@{#1}{#2}}{\@GLSfirstplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSfirstplural@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@Glsentryfirstplural{#2}#3}%  
}
```

`\glsname` behaves like `\gls` except it always uses the value given by the name key and it doesn't mark the entry as used.

`\glsname`

```
\newrobustcmd*{\glsname}{\@gls@hyp@opt\@glsname}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsname}[2] []{%  
  \new@ifnextchar[{\@glsname@{#1}{#2}}{\@glsname@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsname@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@Glsentryname{#2}#3}%  
}
```

`\Glsname` behaves like `\glsname` except that the first letter is converted to uppercase.

`\Glsname`

```
\newrobustcmd*{\Glsname}{\@gls@hyp@opt\@Glsname}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsname}{\Glsname}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsname}[2] [] {%  
  \new@ifnextchar[{\@Glsname@{#1}{#2}}{\@Glsname@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsname@#1#2[#3] {%  
  \@gls@field@link{#1}{#2}{\@gls@entryname{#2}#3}%  
}
```

`\GLSname` behaves like `\glsname` except that the link text is converted to uppercase.

`\GLSname`

```
\newrobustcmd*{\@GLSname}{\@gls@hyp@opt\@GLSname}  
\glsmfublocker{\@GLSname}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSname}[2] [] {%  
  \new@ifnextchar[{\@GLSname@{#1}{#2}}{\@GLSname@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSname@#1#2[#3] {%  
  \@gls@field@link{#1}{#2}{\@gls@supercase{\@gls@entryname{#2}#3}}%  
}
```

`\glsdesc` behaves like `\gls` except it always uses the value given by the description key and it doesn't mark the entry as used.

`\glsdesc`

```
\newrobustcmd*{\@glsdesc}{\@gls@hyp@opt\@glsdesc}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsdesc}[2] [] {%  
  \new@ifnextchar[{\@glsdesc@{#1}{#2}}{\@glsdesc@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsdesc@#1#2[#3] {%  
  \@gls@field@link{#1}{#2}{\@gls@entrydesc{#2}#3}%  
}
```

`\Glsdesc` behaves like `\glsdesc` except that the first letter is converted to uppercase.

`\Glsdesc`

```
\newrobustcmd*{\@Glsdesc}{\@gls@hyp@opt\@Glsdesc}
```

Add sentence case mapping.

```
\glsmfuaddmap{\@glsdesc}{\@Glsdesc}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSdesc}[2] [] {%
  \new@ifnextchar[{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSdesc@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsentrydesc{#2}#3}%
}
```

\GLSdesc behaves like \glsdesc except that the link text is converted to uppercase.

\GLSdesc

```
\newrobustcmd*{\GLSdesc}{\@gls@hyp@opt\@GLSdesc}
\glsmfublocker{\GLSdesc}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSdesc}[2] [] {%
  \new@ifnextchar[{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSdesc@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrydesc{#2}#3}}%
}
```

\glsdescplural behaves like \gls except it always uses the value given by the descriptionplural key and it doesn't mark the entry as used.

\glsdescplural

```
\newrobustcmd*{\glsdescplural}{\@gls@hyp@opt\@glsdescplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsdescplural}[2] [] {%
  \new@ifnextchar[{\@glsdescplural@{#1}{#2}}{\@glsdescplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsdescplural@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
```

\Glsdescplural behaves like \glsdescplural except that the first letter is converted to uppercase.

\Glsdescplural

```
\newrobustcmd*{\Glsdescplural}{\@gls@hyp@opt\@Glsdescplural}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsdescplural}{\Glsdescplural}
```


Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\GLSdescplural}[2] [] {%
  \new@ifnextchar[{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSdescplural@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentrydescplural{#2}#3}%
}
```

`\GLSdescplural` behaves like `\glsdescplural` except that the link text is converted to uppercase.

`\GLSdescplural`

```
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\glsmfublocker{\GLSdescplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\GLSdescplural}[2] [] {%
  \new@ifnextchar[{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSdescplural@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsuppercase{\Glsentrydescplural{#2}#3}%
}
```

`\glsymbol` behaves like `\gls` except it always uses the value given by the symbol key and it doesn't mark the entry as used.

`\glsymbol`

```
\newrobustcmd*{\glsymbol}{\@gls@hyp@opt\@glsymbol}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\glsymbol}[2] [] {%
  \new@ifnextchar[{\@glsymbol@{#1}{#2}}{\@glsymbol@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@glsymbol@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentrysymbol{#2}#3}%
}
```

`\Glsymbol` behaves like `\glsymbol` except that the first letter is converted to uppercase.

`\Glsymbol`

```
\newrobustcmd*{\Glsymbol}{\@gls@hyp@opt\@Glsymbol}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsymbol}{\Glsymbol}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLssymbol}[2] []{%  
  \new@ifnextchar[{\@GLssymbol@{#1}{#2}}{\@GLssymbol@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLssymbol@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentrysymbol{#2}#3}%  
}
```

`\GLSsymbol` behaves like `\glsymbol` except that the link text is converted to uppercase.

`\GLSsymbol`

```
\newrobustcmd*{\GLSsymbol}{\@gls@hyp@opt\@GLSsymbol}  
\glsmfublocker{\GLSsymbol}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSsymbol}[2] []{%  
  \new@ifnextchar[{\@GLSsymbol@{#1}{#2}}{\@GLSsymbol@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSsymbol@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@glsentrysymbol{#2}#3}}%  
}
```

`\glsymbolplural` behaves like `\gls` except it always uses the value given by the `symbolplural` key and it doesn't mark the entry as used.

`\glsymbolplural`

```
\newrobustcmd*{\glsymbolplural}{\@gls@hyp@opt\@glsymbolplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsymbolplural}[2] []{%  
  \new@ifnextchar[{\@glsymbolplural@{#1}{#2}}{\@glsymbolplural@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsymbolplural@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentrysymbolplural{#2}#3}%  
}
```

`\Glsymbolplural` behaves like `\glsymbolplural` except that the first letter is converted to uppercase.

`\Glsymbolplural`

```
\newrobustcmd*{\Glsymbolplural}{\@gls@hyp@opt\@Glsymbolplural}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsymbolplural}{\Glsymbolplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsymbolplural}[2] [] {%
  \new@ifnextchar[{\@Glsymbolplural@{#1}{#2}}{\@Glsymbolplural@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@Glsymbolplural@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsentrysymbolplural{#2}#3}%
}
```

`\GLSsymbolplural` behaves like `\glsymbolplural` except that the link text is converted to uppercase.

`\GLSsymbolplural`

```
\newrobustcmd*{\GLSsymbolplural}{\@gls@hyp@opt\@GLSsymbolplural}
\glsmfublocker{\GLSsymbolplural}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSsymbolplural}[2] [] {%
  \new@ifnextchar[{\@GLSsymbolplural@{#1}{#2}}{\@GLSsymbolplural@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSsymbolplural@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@glsentrysymbolplural{#2}#3}}%
}
```

`\glsuseri` behaves like `\gls` except it always uses the value given by the `user1` key and it doesn't mark the entry as used.

`\glsuseri`

```
\newrobustcmd*{\glsuseri}{\@gls@hyp@opt\@glsuseri}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuseri}[2] [] {%
  \new@ifnextchar[{\@glsuseri@{#1}{#2}}{\@glsuseri@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@glsuseri@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsentryuseri{#2}#3}%
}
```

`\Glsuseri` behaves like `\glsuseri` except that the first letter is converted to uppercase.

`\Glsuseri`

```
\newrobustcmd*{\Glsuseri}{\@gls@hyp@opt\@Glsuseri}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuseri}{\Glsuseri}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuseri}[2] [] {%
  \new@ifnextchar[{\@Glsuseri@{#1}{#2}}{\@Glsuseri@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@Glsuseri@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\@Glsentryuseri{#2}#3}%
}
```

`\GLSuseri` behaves like `\glsuseri` except that the link text is converted to uppercase.

`\GLSuseri`

```
\newrobustcmd*{\GLSuseri}{\@gls@hyp@opt\@GLSuseri}
\glsmfublocker{\GLSuseri}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSuseri}[2] [] {%
  \new@ifnextchar[{\@GLSuseri@{#1}{#2}}{\@GLSuseri@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSuseri@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@Glsentryuseri{#2}#3}%
}
```

`\glsuserii` behaves like `\gls` except it always uses the value given by the `user2` key and it doesn't mark the entry as used.

`\glsuserii`

```
\newrobustcmd*{\glsuserii}{\@gls@hyp@opt\@glsuserii}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuserii}[2] [] {%
  \new@ifnextchar[{\@glsuserii@{#1}{#2}}{\@glsuserii@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@glsuserii@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\@Glsentryuserii{#2}#3}%
}
```

`\Glsuserii` behaves like `\glsuserii` except that the first letter is converted to uppercase.

`\Glsuserii`

```
\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuserii}{\Glsuserii}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuserii}[2] []{%  
  \new@ifnextchar[{\@Glsuserii@{#1}{#2}}{\@Glsuserii@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsuserii@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentryuserii{#2}#3}%  
}
```

\Glsuserii behaves like \glsuserii except that the link text is converted to uppercase.

\Glsuserii

```
\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}  
\glsmfublocker{\Glsuserii}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSuserii}[2] []{%  
  \new@ifnextchar[{\@GLSuserii@{#1}{#2}}{\@GLSuserii@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSuserii@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@glsentryuserii{#2}#3}%  
}
```

\glsuseriii behaves like \gls except it always uses the value given by the user3 key and it doesn't mark the entry as used.

\glsuseriii

```
\newrobustcmd*{\glsuseriii}{\@gls@hyp@opt\@glsuseriii}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuseriii}[2] []{%  
  \new@ifnextchar[{\@glsuseriii@{#1}{#2}}{\@glsuseriii@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsuseriii@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentryuseriii{#2}#3}%  
}
```

\Glsuseriii behaves like \glsuseriii except that the first letter is converted to uppercase.

\Glsuseriii

```
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuseriii}{\Glsuseriii}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuseriii}[2] [] {%
  \new@ifnextchar[{\@Glsuseriii@{#1}{#2}}{\@Glsuseriii@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@Glsuseriii@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentryuseriii{#2}#3}%
}
```

\Glsuseriii behaves like \glsuseriii except that the link text is converted to uppercase.

\Glsuseriii

```
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
\glsmfublocker{\Glsuseriii}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSuseriii}[2] [] {%
  \new@ifnextchar[{\@GLSuseriii@{#1}{#2}}{\@GLSuseriii@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSuseriii@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\glsuppercase{\Glsentryuseriii{#2}#3}}%
}
```

\glsuseriv behaves like \gls except it always uses the value given by the user4 key and it doesn't mark the entry as used.

\glsuseriv

```
\newrobustcmd*{\glsuseriv}{\@gls@hyp@opt\@glsuseriv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuseriv}[2] [] {%
  \new@ifnextchar[{\@glsuseriv@{#1}{#2}}{\@glsuseriv@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@glsuseriv@#1#2[#3] {%
  \@gls@field@link{#1}{#2}{\Glsentryuseriv{#2}#3}%
}
```

\Glsuseriv behaves like \glsuseriv except that the first letter is converted to uppercase.

\Glsuseriv

```
\newrobustcmd*{\Glsuseriv}{\@gls@hyp@opt\@Glsuseriv}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuseriv}{\Glsuseriv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuseriv}[2] []{%  
  \new@ifnextchar[{\@Glsuseriv@{#1}{#2}}{\@Glsuseriv@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@Glsuseriv@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentryuseriv{#2}#3}%  
}
```

\GLSuseriv behaves like \glsuseriv except that the link text is converted to uppercase.

\GLSuseriv

```
\newrobustcmd*{\GLSuseriv}{\@gls@hyp@opt\@GLSuseriv}  
\glsmfublocker{\GLSuseriv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSuseriv}[2] []{%  
  \new@ifnextchar[{\@GLSuseriv@{#1}{#2}}{\@GLSuseriv@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@GLSuseriv@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@glsentryuseriv{#2}#3}}%  
}
```

\glsuserv behaves like \gls except it always uses the value given by the user5 key and it doesn't mark the entry as used.

\glsuserv

```
\newrobustcmd*{\glsuserv}{\@gls@hyp@opt\@glsuserv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuserv}[2] []{%  
  \new@ifnextchar[{\@glsuserv@{#1}{#2}}{\@glsuserv@{#1}{#2} []}}
```

Read in the final optional argument:

```
\def\@glsuserv@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsentryuserv{#2}#3}%  
}
```

\Glsuserv behaves like \glsuserv except that the first letter is converted to uppercase.

\Glsuserv

```
\newrobustcmd*{\Glsuserv}{\@gls@hyp@opt\@Glsuserv}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuserv}{\Glsuserv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuserv}[2][ ]{%  
  \new@ifnextchar[{\@Glsuserv@{#1}{#2}}{\@Glsuserv@{#1}{#2}[ ]}}
```

Read in the final optional argument:

```
\def\@Glsuserv@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@Glsentryuserv{#2}#3}%  
}
```

\Glsuserv behaves like \glsuserv except that the link text is converted to uppercase.

\Glsuserv

```
\newrobustcmd*{\Glsuserv}{\@gls@hyp@opt\@Glsuserv}  
\glsmfublocker{\Glsuserv}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuserv}[2][ ]{%  
  \new@ifnextchar[{\@Glsuserv@{#1}{#2}}{\@Glsuserv@{#1}{#2}[ ]}}
```

Read in the final optional argument:

```
\def\@Glsuserv@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@Glsentryuserv{#2}#3}%  
}
```

\glsuservi behaves like \gls except it always uses the value given by the user6 key and it doesn't mark the entry as used.

\glsuservi

```
\newrobustcmd*{\glsuservi}{\@gls@hyp@opt\@glsuservi}
```

Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@glsuservi}[2][ ]{%  
  \new@ifnextchar[{\@glsuservi@{#1}{#2}}{\@glsuservi@{#1}{#2}[ ]}}
```

Read in the final optional argument:

```
\def\@glsuservi@#1#2[#3]{%  
  \@gls@field@link{#1}{#2}{\@Glsentryuservi{#2}#3}%  
}
```

\Glsuservi behaves like \glsuservi except that the first letter is converted to uppercase.

\Glsuservi

```
\newrobustcmd*{\Glsuservi}{\@gls@hyp@opt\@Glsuservi}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glsuservi}{\Glsuservi}
```


Defined the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@Glsuservi}[2] []{%
  \new@ifnextchar[{\@Glsuservi@{#1}{#2}}{\@Glsuservi@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@Glsuservi@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@Glsentryuservi{#2}#3}%
}
```

\GLSuservi behaves like \glsuservi except that the link text is converted to uppercase.

\GLSuservi

```
\newrobustcmd*{\GLSuservi}{\@gls@hyp@opt\@GLSuservi}
\glsmfublocker{\GLSuservi}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@GLSuservi}[2] []{%
  \new@ifnextchar[{\@GLSuservi@{#1}{#2}}{\@GLSuservi@{#1}{#2} []]}
```

Read in the final optional argument:

```
\def\@GLSuservi@#1#2[#3]{%
  \@gls@field@link{#1}{#2}{\@glsuppercase{\@Glsentryuservi{#2}#3}}%
}
```

Now deal with acronym related keys. First the short form:

\acrshort

```
\newrobustcmd*{\acrshort}{\@gls@hyp@opt\@ns@acrshort}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\@ns@acrshort}[2] []{%
  \new@ifnextchar[{\@acrshort{#1}{#2}}{\@acrshort{#1}{#2} []}]%
}
```

Read in the final optional argument:

```
\def\@acrshort#1#2[#3]{%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

    \let\glsifplural\@secondoftwo
    \let\glsifscaps\@firstofthree
    \let\glsinsert\@empty
    \def\glsfontfont{%
      \acronymfont{\@Glsentryshort{#2}#3}%
    }%
  }%
}
```

Call `\@gls@link` Note that `\@gls@link` sets `\glstyp`.

```
\@gls@link[#1]{#2}{\csname gls@glstyp @entryfmt\endcsname}%
}%

\glspostlinkhook
}
```

`\Acrshort`

```
\newrobustcmd*{\Acrshort}{\@gls@hyp@opt\ns@Acrshort}
```

Add sentence case mapping.

```
\glsmfuaddmap{\Acrshort}{\Acrshort}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Acrshort}[2] [] {%
  \new@ifnextchar[{\@Acrshort{#1}{#2}}{\@Acrshort{#1}{#2} []}]%
}
```

Read in the final optional argument:

```
\def\@Acrshort#1#2[#3] {%
  \glsdoifexists{#2}%
  {%

    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

    \def\glslabel{#2}%
    \let\glsifplural\@secondoftwo
    \let\glsifscaps\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsentryshort{#2}}#3%
    }%
  }%
}
```

Call `\@gls@link` Note that `\@gls@link` sets `\glstyp`.

```
\@gls@link[#1]{#2}{\csname gls@glstyp @entryfmt\endcsname}%
}%

\glspostlinkhook
}
```

`\ACRshort`

```
\newrobustcmd*{\ACRshort}{\@gls@hyp@opt\ns@ACRshort}
\glsmfublocker{\ACRshort}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@ACRshort}[2] [] {%
  \new@ifnextchar[{\@ACRshort{#1}{#2}}{\@ACRshort{#1}{#2} []}]%
}
```

Read in the final optional argument:

```
\def\@ACRshort#1#2[#3]{%
  \glsdoifexists{#2}%
  {%

    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper

    \def\glslabel{#2}%
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glsuppercase{\acronymfont{\glentryshort{#2}}#3}%
    }%
  }
```

Call `\@gl@link` Note that `\@gl@link` sets `\glstype`.

```
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%

\glspostlinkhook
}

Short plural:
```

`\acrshortpl`

```
\newrobustcmd*{\acrshortpl}{\@gl@hyp@opt\@ns@acrshortpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@acrshortpl}[2] [] {%
  \new@ifnextchar[{\@acrshortpl{#1}{#2}}{\@acrshortpl{#1}{#2} []}%
}
```

Read in the final optional argument:

```
\def\@acrshortpl#1#2[#3]{%
  \glsdoifexists{#2}%
  {%

    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper

    \def\glslabel{#2}%
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glentryshortpl{#2}}#3%
    }%
  }
```

Call `\@gl@link` Note that `\@gl@link` sets `\glstype`.

```
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
```

```

    \glspostlinkhook
  }

\Acrshortpl
  \newrobustcmd*{\Acrshortpl}{\@gls@hyp@opt\@ns@Acrshortpl}

Add sentence case mapping.
  \glsmfuaddmap{\Acrshortpl}{\Acrshortpl}
Define the un-starred form. Need to determine if there is a final optional argument
  \newcommand*{\ns@Acrshortpl}[2][{}]{%
    \new@ifnextchar[{\@Acrshortpl{#1}{#2}}{\@Acrshortpl{#1}{#2}[]}]%
  }
Read in the final optional argument:
  \def\@Acrshortpl#1#2[#3]{%
    \glsdoifexists{#2}%
    {%
      \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

      \def\glslabel{#2}%
      \let\glsifplural\@firstoftwo
      \let\glscapscase\@secondofthree
      \let\glsinsert\@empty
      \def\glscustomtext{%
        \acronymfont{\Glsentryshortpl{#2}}#3%
      }%
    }%
  }

Call \@gls@link Note that \@gls@link sets \glsstyle.
  \@gls@link[#1]{#2}{\csname gls@\glsstyle @entryfmt\endcsname}%
  }%

  \glspostlinkhook
}

\ACRshortpl
  \newrobustcmd*{\ACRshortpl}{\@gls@hyp@opt\@ns@ACRshortpl}
  \glsmfublocker{\ACRshortpl}

Define the un-starred form. Need to determine if there is a final optional argument
  \newcommand*{\ns@ACRshortpl}[2][{}]{%
    \new@ifnextchar[{\@ACRshortpl{#1}{#2}}{\@ACRshortpl{#1}{#2}[]}]%
  }
Read in the final optional argument:
  \def\@ACRshortpl#1#2[#3]{%
    \glsdoifexists{#2}%
    {%

```

```

\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

\def\glslabel{#2}%
\let\glsifplural\@firstoftwo
\let\glsescapscase\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{%
  \glsuppercase{\acronymfont{\glsentryshortpl{#2}}#3}%
}%

```

Call `\@gls@link` Note that `\@gls@link` sets `\glstype`.

```

\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%

```

```

\glspostlinkhook
}

```

`\acrlong`

```

\newrobustcmd*{\acrlong}{\@gls@hyp@opt\@ns@acrlong}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@acrlong}[2][{}]{%
  \new@ifnextchar[{\@acrlong{#1}{#2}}{\@acrlong{#1}{#2}[]}%
}

```

Read in the final optional argument:

```

\def\@acrlong#1#2[#3]{%
  \glsdoifexists{#2}%
  {%

    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

    \def\glslabel{#2}%
    \let\glsifplural\@secondoftwo
    \let\glsescapscase\@firstofthree
    \let\glsinsert\@empty

```

Bug fix v4.02 removed `\acronymfont` from `\glscustomtext` (`\acronymfont` only designed for short form).

```

\def\glscustomtext{%
  \glsentrylong{#2}#3%
}%

```

Call `\@gls@link` Note that `\@gls@link` sets `\glstype`.

```

\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%

```

```

\glspostlinkhook
}

```

`\Acrlong`

```
\newrobustcmd*{\Acrlong}{\@gls@hyp@opt\ns@Acrlong}
```

Add sentence case mapping.

```
\glsmfuaddmap{\Acrlong}{\Acrlong}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Acrlong}[2] [] {%  
  \new@ifnextchar[{\@Acrlong{#1}{#2}}{\@Acrlong{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@Acrlong#1#2[#3]{%  
  \glsdoifexists{#2}%  
  {%  
  
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper  
  
    \def\glslabel{#2}%  
    \let\glsifplural\@secondoftwo  
    \let\glscapscase\@secondofthree  
    \let\glsinsert\@empty
```

Bug fix v4.02 removed `\acronymfont` from `\glscustomtext` (`\acronymfont` only designed for short form).

```
\def\glscustomtext{%  
  \Glsentrylong{#2}#3%  
}%
```

Call `\@gls@link`. Note that `\@gls@link` sets `\glstype`.

```
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%  
}%  
  
\glspostlinkhook  
}
```

`\ACRlong`

```
\newrobustcmd*{\ACRlong}{\@gls@hyp@opt\ns@ACRlong}  
\glsmfublocker{\ACRlong}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@ACRlong}[2] [] {%  
  \new@ifnextchar[{\@ACRlong{#1}{#2}}{\@ACRlong{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@ACRlong#1#2[#3]{%  
  \glsdoifexists{#2}%  
  {%
```

```
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
```

```
\def\glslabel{#2}%  
\let\glsifplural\@secondoftwo  
\let\glsescapscase\@thirdofthree  
\let\glsinsert\@empty
```

Bug fix v4.02 removed `\acronymfont` from `\glscustomtext` (`\acronymfont` only designed for short form).

```
\def\glscustomtext{%  
  \glsuppercase{\glsentrylong{#2}#3}%  
}%
```

Call `\@gls@link`. Note that `\@gls@link` sets `\glstype`.

```
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%  
}%
```

```
\glspostlinkhook  
}
```

Short plural:

`\acrlongpl`

```
\newrobustcmd*{\acrlongpl}{\@gls@hyp@opt\@ns@acrlongpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@acrlongpl}[2][{}]{%  
  \new@ifnextchar[{\@acrlongpl{#1}{#2}}{\@acrlongpl{#1}{#2}[]}%  
}
```

Read in the final optional argument:

```
\def\@acrlongpl#1#2[#3]{%  
  \glsdoifexists{#2}%  
  {%
```

```
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
```

```
\def\glslabel{#2}%  
\let\glsifplural\@firstoftwo  
\let\glsescapscase\@firstofthree  
\let\glsinsert\@empty
```

Bug fix v4.02 removed `\acronymfont` from `\glscustomtext` (`\acronymfont` only designed for short form).

```
\def\glscustomtext{%  
  \glsentrylongpl{#2}#3%  
}%
```

Call `\@gls@link`. Note that `\@gls@link` sets `\glstype`.

```
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%  
}%
```

```

    \glspostlinkhook
  }

\Acrlongpl
  \newrobustcmd*{\Acrlongpl}{\@gls@hyp@opt\ns@Acrlongpl}

Add sentence case mapping.
  \glsmfuaddmap{\Acrlongpl}{\Acrlongpl}
Define the un-starred form. Need to determine if there is a final optional argument
  \newcommand*{\ns@Acrlongpl}[2][ ]{%
    \new@ifnextchar[{\@Acrlongpl{#1}{#2}}{\@Acrlongpl{#1}{#2} [ ]}%
  }
Read in the final optional argument:
  \def\@Acrlongpl#1#2[#3]{%
    \glsdoifexists{#2}%
    {%
      \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

      \def\glslabel{#2}%
      \let\glsifplural\@firstoftwo
      \let\glscapscase\@secondofthree
      \let\glsinsert\@empty

Bug fix v4.02 removed \acronymfont from \glscustomtext (\acronymfont
only designed for short form).
      \def\glscustomtext{%
        \Glsentrylongpl{#2}#3%
      }%
Call \@gls@link. Note that \@gls@link sets \glstype.
      \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
    }%

    \glspostlinkhook
  }

\ACRlongpl
  \newrobustcmd*{\ACRlongpl}{\@gls@hyp@opt\ns@ACRlongpl}
  \glsmfublocker{\ACRlongpl}

Define the un-starred form. Need to determine if there is a final optional argument
  \newcommand*{\ns@ACRlongpl}[2][ ]{%
    \new@ifnextchar[{\@ACRlongpl{#1}{#2}}{\@ACRlongpl{#1}{#2} [ ]}%
  }

```


Read in the final optional argument:

```
\def\ACRlongpl#1#2[#3]{%
  \glsdoifexists{#2}%
  {%

    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

    \def\glslabel{#2}%
    \let\glsifplural\@firstoftwo
    \let\gls caps case\@thirdofthree
    \let\glsinsert\@empty
```

Bug fix v4.02 removed `\acronymfont` from `\gls customtext` (`\acronymfont` only designed for short form).

```
\def\gls customtext{%
  \glsuppercase{\glsentrylongpl{#2}#3}%
}%
```

Call `\@gls@link`. Note that `\@gls@link` sets `\gls type`.

```
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%

\gls post link hook
}
```

2.11.2 Displaying entry details without adding information to the glossary

These commands merely display entry information without adding entries in the associated file or having hyperlinks.

`\@gls@entry@field` Generic version.

```
\@gls@entry@field{<label>}{<field>}
```

Now using `\csuse` instead of `\csname` to expand to nothing rather than `\relax` if undefined.

```
\newcommand*\@gls@entry@field[2]{%
  \csuse{gls@glsdetoklabel{#1}@#2}%
}
```

```
\glsletentryfield{<cs>}{<label>}{<field>}
```

`\glsletentryfield`

```
\newcommand*\glsletentryfield[3]{%
  \letcs{#1}{gls@glsdetoklabel{#2}@#3}%
}
```

`\@Gls@entry@field` Generic first letter uppercase version.

```
\@Gls@entry@field{<label>}{<field>}
```

Check for PDF bookmarks performed by `\@Glsentryfield`.

```
\newrobustcmd*{\@Gls@entry@field}[2]{%
  \glsdoifexistsordo{#1}%
  {%
    \letcs\@glo@text{glo@\glsdetoklabel{#1}@#2}%
    \ifdef\@glo@text
    {%
      \expandafter\glsentencecase\expandafter{\@glo@text}%
    }%
    {%
      ??\PackageError{glossaries}{The field ‘#2’ doesn’t exist for glossary
        entry ‘\glsdetoklabel{#1}’}{Check you have correctly spelt the entry
        label and the field name}%
    }%
  }%
  {%
    ???%
  }%
}
```

Aside from `\Glsentryname`, the `\Glsentry...` sentence case commands can all follow the same format.

```
\@Glsentryfield{<entry-label>}{<field-label>}
```

`\@Glsentryfield`

```
\newcommand{\@Glsentryfield}[2]{%
  \glstexorpdfstring{\@Gls@entry@field{#1}{#2}}%
  {\MFUsentencecase{\@Gls@entry@field{#1}{#2}}}%
}
```

`\glstexorpdfstring` Provide a command that will use `\texorpdfstring` if it has been defined. (Remove all the cumbersome tests to determine whether or not that command has been defined.)

```
\ifdef\texorpdfstring
{\newcommand{\glstexorpdfstring}{\texorpdfstring}}
{\newcommand{\glstexorpdfstring}[2]{#1}}
```

Get the entry name (as specified by the name key when the entry was defined). The argument is the label associated with the entry. Note that unless you used `name=false` in the `sanitize` package option you may get unexpected results if the name key contains any commands.

`\glsentryname`

```
\newcommand*{\glsentryname}[1]{\@Gls@entry@field{#1}{name}}
```

The sentence-case equivalents were made robust since they use the non-expandable `\makefirstuc`. These will now expand in the PDF bookmarks to sentence case using `\MFUsentencecase` (which is expandable). Obviously, if any of the fields contain non-expandable content (such as acronym font changing commands) then that will cause a problem (which can be dealt with by using `hyperref`'s `\pdfstringdefDisableCommands`).

```
\Glsentryname
  \newcommand*\Glsentryname[1]{%
    \glstexorpdfstring{\protect\@Gls@entryname{#1}}%
    {\MFUsentencecase{\@gls@entry@field{#1}{name}}}%
  }

  \glsmfuexcl{\Glsentryname}
```

`\@Gls@entryname` This is a workaround in the event that the user defies the warning in the manual about not using `\Glsname` or `\Glsentryname` with acronyms. The check for PDF bookmarks is in `\Glsentryname`. First the default behaviour:

```
\newcommand*\@Gls@entryname[1]{%
  \@Gls@entry@field{#1}{name}%
}
```

`\@Gls@acentryname` Now the behaviour when `\setacronymstyle` is used. The original definition of this command used `mfirstuc` internal commands that are now being deprecated.

```
\newrobustcmd*\@Gls@acentryname[1]{%
  \ifglshaslong{#1}%
  {%
```

Just need to ensure that `\acrnameformat` is expanded, which may cause problems as non-robust semantic commands may expand to content that interferes with sentence-casing.

```
  \protected@edef\@glo@text{\@gls@entry@field{#1}{name}}%
  \expandafter\glsentencecase\expandafter{\@glo@text}%
  }%
  {%
```

Not an acronym

```
  \@Gls@entry@field{#1}{name}%
  }%
}
```

`\@org@Gls@acentryname` Original definition of `\@Gls@acentryname`. This will be removed in a later version.

```
\newcommand*\@org@Gls@acentryname[1]{%
  \ifglshaslong{#1}%
  {%
    \letcs\@glo@text{glo@\glsdetoklabel{#1}@name}%
  }
```

`\@gls@getbody` is defined by `mfirstuc` (which used to be part of `glossaries`).

```

\expandafter\@gls@getbody\@glo@text{}\@nil
\expandafter\ifx\@gls@body\glsentrylong\relax
\expandafter\Glsentrylong\@gls@rest
\else
\expandafter\ifx\@gls@body\glsentryshort\relax
\expandafter\Glsentryshort\@gls@rest
\else
\expandafter\ifx\@gls@body\acronymfont\relax

```

Temporarily make `\glsentryshort` behave like `\Glsentryshort`. (This is on the assumption that the argument of `\acronymfont` is `\glsentryshort` `{\label}`}, as that's the behaviour of the predefined acronym styles.) This is scoped to localise the effect of the assignment.

```

{
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else

\expandafter\ifx\@gls@body\glsshortaccessdisplay\relax
{
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else
\expandafter\glsentencecase\expandafter{\@glo@text}%
\fi
\fi
\fi
\fi
}%
{

```

Not an acronym

```

\@Gls@entry@field{#1}{name}%
}%
}

```

Get the entry description (as specified by the `description` when the entry was defined). The argument is the label associated with the entry. Note that unless you used `description=false` in the `sanitize` package option you may get unexpected results if the `description` key contained any commands.

```

\glsentrydesc
\newcommand*{\glsentrydesc}[1]{\@gls@entry@field{#1}{desc}}

```

```

\Glsentrydesc
\newcommand*{\Glsentrydesc}[1]{\@Gls@entry@field{#1}{desc}}

```

Version 4.54: sentence case mapping removed as `\glsentrydesc` is expandable. This ensures that `\glsentrydesc` can be converted to all-caps if required. However, `\Glsentrydesc` needs to be added as an exclusion. (Similarly for the other `\Glsentry<field>` commands)

```
\glsmfuexcl{\Glsentrydesc}
```

Plural form:

```
\glsentrydescplural
```

```
\newcommand*{\glsentrydescplural}[1]{%
  \@gls@entry@field{#1}{descplural}%
}
```

```
\Glsentrydescplural
```

```
\newcommand*{\Glsentrydescplural}[1]{%
  \@Glsentryfield{#1}{descplural}%
}
```

```
\glsmfuexcl{\Glsentrydescplural}
```

Get the entry text, as specified by the `text` key when the entry was defined. The argument is the label associated with the entry:

```
\glsentrytext
```

```
\newcommand*{\glsentrytext}[1]{\@gls@entry@field{#1}{text}}
```

```
\Glsentrytext
```

```
\newcommand*{\Glsentrytext}[1]{%
  \@Glsentryfield{#1}{text}%
}
```

```
\glsmfuexcl{\Glsentrytext}
```

Get the plural form:

```
\glsentryplural
```

```
\newcommand*{\glsentryplural}[1]{%
  \@gls@entry@field{#1}{plural}%
}
```

```
\Glsentryplural
```

```
\newcommand*{\Glsentryplural}[1]{%
  \@Glsentryfield{#1}{plural}%
}
```

```
\glsmfuexcl{\Glsentryplural}
```

Get the symbol associated with this entry. The argument is the label associated with the entry.

```
\glsentrysymbol
  \newcommand*\glsentrysymbol[1]{%
    \@gls@entry@field{#1}{symbol}%
  }
```

```
\Glsentrysymbol
  \newcommand*\Glsentrysymbol[1]{%
    \@Glsentryfield{#1}{symbol}%
  }
```

```
\glsmfuexcl{\Glsentrysymbol}
```

Plural form:

```
\glsentrysymbolplural
  \newcommand*\glsentrysymbolplural[1]{%
    \@gls@entry@field{#1}{symbolplural}%
  }
```

```
\Glsentrysymbolplural
  \newcommand*\Glsentrysymbolplural[1]{%
    \@Glsentryfield{#1}{symbolplural}%
  }
```

```
\glsmfuexcl{\Glsentrysymbolplural}
```

Get the entry text to be used when the entry is first used in the document (as specified by the first key when the entry was defined).

```
\glsentryfirst
  \newcommand*\glsentryfirst[1]{%
    \@gls@entry@field{#1}{first}%
  }
```

```
\Glsentryfirst
  \newcommand*\Glsentryfirst[1]{%
    \@Glsentryfield{#1}{first}%
  }
```

```
\glsmfuexcl{\Glsentryfirst}
```

Get the plural form (as specified by the firstplural key when the entry was defined).

```
\glsentryfirstplural
  \newcommand*\glsentryfirstplural[1]{%
    \@gls@entry@field{#1}{firstpl}%
  }
```

```

\Glsentryfirstplural
    \newcommand*{\Glsentryfirstplural}[1]{%
        \@Glsentryfield{#1}{firstpl}%
    }

    \glsmfuexcl{\Glsentryfirstplural}

\glscapitalisewords Make it easier to switch from \capitalisewords to \capitalisefmtwords.
    \newcommand{\glscapitalisewords}[1]{%
        \capitalisewords{#1}%
    }

\glsentrytitlecase Now uses sentence case in PDF bookmark.
    \newcommand*{\glsentrytitlecase}[2]{%
        \glstexorpdfstring
            {@glsentrytitlecase{#1}{#2}}%
            {\MFUsentencecase{\@gls@entry@field{#1}{#2}}}%
    }

\@glsentrytitlecase
    \newrobustcmd*{\@glsentrytitlecase}[2]{%
        \glsdoifexists{#1}%
        {%
            \glsfieldfetch{#1}{#2}{\@gls@value}%
            \expandafter\glscapitalisewords\expandafter{\@gls@value}%
        }%
    }

    Display the glossary type with which this entry is associated (as specified by
    the type key used when the entry was defined). This expands to a label so isn't
    intended to produce text in the document.

\glsentrytype
    \newcommand*{\glsentrytype}[1]{\@gls@entry@field{#1}{type}}

    Display the sort text used for this entry. Note that the sort key is sanitize,
    so unexpected results may occur if the sort key contained commands. This is
    likewise not intended to produce text in the document, other than for debugging
    purposes.

\glsentrysort
    \newcommand*{\glsentrysort}[1]{%
        \@gls@entry@field{#1}{sort}%
    }

\glsentryparent Expands to the label of the entry's parent. This expands to a label so isn't
    intended to produce text in the document.
    \newcommand*{\glsentryparent}[1]{%
        \@gls@entry@field{#1}{parent}%
    }

```

`\glsentryuseri` Get the first user key (as specified by the `user1` when the entry was defined). The argument is the label associated with the entry.

```

\newcommand*\glsentryuseri[1]{%
  \@gls@entry@field{#1}{useri}%
}

```

`\Glsentryuseri`

```

\newcommand*\Glsentryuseri[1]{%
  \@Glsentryfield{#1}{useri}%
}

\glsmfuexcl{\Glsentryuseri}

```

`\glsentryuserii` Get the second user key (as specified by the `user2` when the entry was defined). The argument is the label associated with the entry.

```

\newcommand*\glsentryuserii[1]{%
  \@gls@entry@field{#1}{userii}%
}

```

`\Glsentryuserii`

```

\newcommand*\Glsentryuserii[1]{%
  \@Glsentryfield{#1}{userii}%
}

\glsmfuexcl{\Glsentryuserii}

```

`\glsentryuseriii` Get the third user key (as specified by the `user3` when the entry was defined). The argument is the label associated with the entry.

```

\newcommand*\glsentryuseriii[1]{%
  \@gls@entry@field{#1}{useriii}%
}

```

`\Glsentryuseriii`

```

\newcommand*\Glsentryuseriii[1]{%
  \@Glsentryfield{#1}{useriii}%
}

Add sentence case mapping.
\glsmfuexcl{\Glsentryuseriii}

```

`\glsentryuseriv` Get the fourth user key (as specified by the `user4` when the entry was defined). The argument is the label associated with the entry.

```

\newcommand*\glsentryuseriv[1]{%
  \@gls@entry@field{#1}{useriv}%
}

```



```

\Glsentryuseriv
    \newcommand*\Glsentryuseriv}[1]{%
        \@Glsentryfield{#1}{useriv}%
    }

    \glsmfuexcl{\Glsentryuseriv}

\glentryuserv Get the fifth user key (as specified by the user5 when the entry was defined).
The argument is the label associated with the entry.
    \newcommand*\glentryuserv}[1]{%
        \@gls@entry@field{#1}{useriv}%
    }

\Glsentryuserv
    \newcommand*\Glsentryuserv}[1]{%
        \@Glsentryfield{#1}{useriv}%
    }

    \glsmfuexcl{\Glsentryuserv}

\glentryuservi Get the sixth user key (as specified by the user6 when the entry was defined).
The argument is the label associated with the entry.
    \newcommand*\glentryuservi}[1]{%
        \@gls@entry@field{#1}{useriv}%
    }

\Glsentryuservi
    \newcommand*\Glsentryuservi}[1]{%
        \@Glsentryfield{#1}{useriv}%
    }

    \glsmfuexcl{\Glsentryuservi}

\glentryshort Get the short key (as specified by the short the entry was defined). The argument
is the label associated with the entry.
    \newcommand*\glentryshort}[1]{\@gls@entry@field{#1}{short}}

\Glsentryshort
    \newcommand*\Glsentryshort}[1]{%
        \@Glsentryfield{#1}{short}%
    }

    \glsmfuexcl{\Glsentryshort}

\glentryshortpl Get the short plural key (as specified by the shortplural the entry was defined).
The argument is the label associated with the entry.
    \newcommand*\glentryshortpl}[1]{\@gls@entry@field{#1}{shortpl}}

```

```

\Glsentryshortpl
    \newcommand*\Glsentryshortpl}[1]{%
        \@Glsentryfield{#1}{shortpl}%
    }

    \glsmfuexcl{\Glsentryshortpl}

\glsentrylong Get the long key (as specified by the long the entry was defined). The argument
is the label associated with the entry.
    \newcommand*\glsentrylong}[1]{\@gls@entry@field{#1}{long}}

\Glsentrylong
    \newcommand*\Glsentrylong}[1]{%
        \@Glsentryfield{#1}{long}%
    }

    \glsmfuexcl{\Glsentrylong}

\glsentrylongpl Get the long plural key (as specified by the longplural the entry was defined).
The argument is the label associated with the entry.
    \newcommand*\glsentrylongpl}[1]{\@gls@entry@field{#1}{longpl}}

\Glsentrylongpl
    \newcommand*\Glsentrylongpl}[1]{%
        \@Glsentryfield{#1}{longpl}%
    }

    \glsmfuexcl{\Glsentrylongpl}

    Short cut macros to access full form:

\glsentryfull This definition shouldn't actually be used. This command will be redefined by
the acronym style.
    \newcommand*\glsentryfull}[1]{%
        \glsentrylong{#1} (\glsentryshort{#1})%
    }

\Glsentryfull This definition shouldn't actually be used. This command will be redefined by
the acronym style.
    \newcommand*\Glsentryfull}[1]{%
        \Glsentrylong{#1} (\glsentryshort{#1})%
    }

    \glsmfuexcl{\Glsentryfull}

\glsentryfullpl This definition shouldn't actually be used. This command will be redefined by
the acronym style.
    \newcommand*\glsentryfullpl}[1]{%
        \acrffullformat{\glsentrylongpl{#1}}{\acronymfont{\glsentryshortpl{#1}}}%
    }

```

`\Glsentryfullpl` This definition shouldn't actually be used. This command will be redefined by the acronym style.

```
\newcommand*\Glsentryfullpl}[1]{%
  \Glsentrylongpl{#1} (\Glsentryshortpl{#1})%
}
%\changes{4.54}{2024-04-03}{change map to exclusion}

\glsmfuexcl{\Glsentryfullpl}
```

`\glsentrynumberlist` Displays the number list as is.

```
\newcommand*\glsentrynumberlist}[1]{%
  \glsdoifexists{#1}%
  {%
    \@gls@entry@field{#1}{numberlist}%
  }%
}
```

`\glsdisplaynumberlist` Formats the number list for the given entry label. Doesn't work with hyperref.

```
\@ifpackageloaded{hyperref} {%
  \newcommand*\glsdisplaynumberlist}[1]{%
    \GlossariesWarning
    {%
      \string\glsdisplaynumberlist\space
      doesn't work with hyperref.^^JUsing
      \string\glsentrynumberlist\space instead%
    }%
    \glsentrynumberlist{#1}%
  }%
}%
{%
  \newcommand*\glsdisplaynumberlist}[1]{%
    \glsdoifexists{#1}%
    {%
      \bgroup

      \protected@edef\@glo@label{\glsdetoklabel{#1}}%
      \let\@org@glnumberformat\glnumberformat
      \def\glnumberformat##1{##1}%
      \protected@edef\the@numberlist{%
        \csname glo@\@glo@label @numberlist\endcsname}%
      \def\@gls@numlist@sep{}%
      \def\@gls@numlist@nextsep{}%
      \def\@gls@numlist@lastsep{}%
      \def\@gls@thislist{}%
      \def\@gls@donext@def{}%
      \renewcommand\do[1]{%
        \protected@edef\@gls@thislist{%
          \@gls@thislist
          \noexpand\@gls@numlist@sep
          ##1%
        }%
      }%
    }%
  }%
}
```

```

    }%
    \let\@gls@numlist@sep\@gls@numlist@nextsep
    \def\@gls@numlist@nextsep{\glsnumlistsep}%
    \@gls@donext@def
    \def\@gls@donext@def{%
      \def\@gls@numlist@lastsep{\glsnumlistlastsep}%
    }%
  }%
  \expandafter \glsnumlistparser \expandafter{\the@numberlist}%
  \let\@gls@numlist@sep\@gls@numlist@lastsep
  \@gls@thislist
\egroup
}%
}
}

```

`\glsnumlistsep`

```
\newcommand*{\glsnumlistsep}{, }
```

`\glsnumlistlastsep`

```
\newcommand*{\glsnumlistlastsep}{ \& }
```

`\gls hyperlink` Provide a hyperlink to a glossary entry without adding information to the glossary file. The entry needs to be added using a command like `\gls link` or `\gls add` to ensure that the target is defined. The first (optional) argument specifies the link text. The entry name is used by default. The second argument is the entry label.

```

\newcommand*{\gls hyperlink}[2][\glsentrytext{\@glo@label}]{%
  \def\@glo@label{#2}%
  \@gls link{\glo link prefix\glsdetoklabel{#2}}{#1}}

```

2.12 Adding an entry to the glossary without generating text

The following keys are provided for `\gls add` and `\gls add all`:

```
\define@key{glossadd}{counter}{\def\@gls@counter{#1}}
```

```
\define@key{glossadd}{format}{\def\@gls@numberformat{#1}}
```

This key is only used by `\gls add all`:

```
\define@key{glossadd}{types}{\def\@glo@type{#1}}
```

```
\gls add[options]{label}
```

Add a term to the glossary without generating any link text. The optional argument indicates which counter to use, and how to format it (using a key-value list) the second argument is the entry label. Note that *options* only has two keys: counter and format (the types key will be ignored).

`\glsadd`

```
\newrobustcmd*{\glsadd}[2] [] {%
```

Need to move to horizontal mode if not already in it, but only if not in preamble.

```
\@gls@adjustmode  
\glsdoifexists{#2}%  
{%
```

```
\def\@glsnumberformat{glsnumberformat}%
```

```
\protected@edef\@gls@counter{\csname glo@\glsdetoklabel{#2}@counter\endcsname}%  
\setkeys{glossadd}{#1}%
```

Store the entry's counter in `\theglsentrycounter`

```
\@gls@saveentrycounter
```

Define sort key if necessary:

```
\@gls@setsort{#2}%
```

This should use `\@@do@wrglossary` rather than `\@do@wrglossary` since the whole point of `\glsadd` is to add a line to the glossary.

```
\@@do@wrglossary{#2}%  
}%  
}
```

Identify `\glsadd` as an exclusion, but this will only work if the optional argument is omitted. If the optional argument is required, the `\glsadd` command with arguments will need to be encapsulated with `\MFUskipunc`. See the `mfirstuc v2.08+` manual for further details.

```
\glsmfuexcl{\glsadd}
```

`\@gls@adjustmode`

```
\newcommand*{\@gls@adjustmode}{  
\AtBeginDocument{\renewcommand*{\@gls@adjustmode}{\ifvmode\mbox{} \fi}}
```

The following aren't added as exclusions, since there's no reason for them to occur at the start of content that may require a case-change (such as at the start of a description).

```
\glsaddall[option list]
```

Add all terms defined for the listed glossaries (without displaying any text). If `types` key is omitted, apply to all glossary types.

`\glsaddall`

```
\newrobustcmd*{\glsaddall}[1] [] {%  
\protected@edef\@glo@type{\@glo@types}%  
\setkeys{glossadd}{#1}%  
\forallglsentries[\@glo@type]{\@glo@entry}{%  
\glsadd[#1]{\@glo@entry}%  
}%  
}
```

```
\glsaddallunused[<glossary types>]
```

`\glsaddallunused`

Add all used terms defined for the listed glossaries (without displaying any text). If optional argument is omitted, apply to all glossary types. This should typically go at the end of the document.

```
\newrobustcmd*{\glsaddallunused}[1][\@glo@types]{%
  \forallglsentries[#1]{\@glo@entry}%
  {%
    \ifglsused{\@glo@entry}{\glsadd[format=glsignore]{\@glo@entry}}%
  }%
}
```

`\glsignore`

```
\newcommand*{\glsignore}[1]{}
```

2.13 Creating associated files

The `\writeist` command creates the associated customized `.ist` `makeindex` style file. While defining this command, some characters have their catcodes temporarily changed to ensure they get written to the `.ist` file correctly. The `makeindex` actual character (usually `@`) is redefined to be a `?`, to allow internal commands to be written to the glossary file output file.

The special characters are stored in `\@gls@actualchar`, `\@gls@encapchar`, `\@gls@levelchar` and `\@gls@quotechar` to make them easier to use later, but don't change these values, because the characters are encoded in the command definitions that are used to escape the special characters (which means that the user no longer needs to worry about `makeindex` special characters).

The symbols and numbers label for group headings are hardwired into the `.ist` file as `glsymbols` and `glsnumbers`, the group titles can be translated (so that `\glsymbolsgroupname` replaces `glsymbols` and `\glsnumbersgroupname` replaces `glsnumbers`) using the command `\glsgetgrouptitle` which is defined in `glossary-hypernav`. This is done to prevent any problem characters in `\glsymbolsgroupname` and `\glsnumbersgroupname` from breaking hyperlinks.

`\glsopenbrace` Define `\glsopenbrace` to make it easier to write an opening brace to a file.

```
\edef\glsopenbrace{\expandafter@gobble\string\{}
```

`\glsclosebrace` Define `\glsclosebrace` to make it easier to write an opening brace to a file.

```
\edef\glsclosebrace{\expandafter@gobble\string\}}
```

`\glsbackslash` Define `\glsbackslash` to make it easier to write a backslash to a file.

```
\edef\glsbackslash{\expandafter@gobble\string\}}
```

`\glsquote` Define command that makes it easier to write quote marks to a file in the event that the double quote character has been made active.

```
\edef\glsquote#1{\string"#1\string"}
```

`\glspercentchar` Define `\glspercentchar` to make it easier to write a percent character to a file.
`\edef\glspercentchar{\expandafter\@gobble\string\%}`

`\glsstildechar` Define `\glsstildechar` to make it easier to write a tilde character to a file.
`\edef\glsstildechar{\string~}`

`\@glsfirstletter` Define the first letter to come after the digits 0, . . . ,9. Only required for xindy.
`\ifglsxindy`
`\newcommand*{\@glsfirstletter}{A}`
`\fi`

`\@GlsSetXdyFirstLetterAfterDigits` Sets the first letter to come after the digits 0, . . . ,9. The starred version sanitizes.
`\newcommand*{\GlsSetXdyFirstLetterAfterDigits}{%`
`\@ifstar\s@GlsSetXdyFirstLetterAfterDigits\@GlsSetXdyFirstLetterAfterDigits}`
`\ifglsxindy`
`\newcommand*{\@GlsSetXdyFirstLetterAfterDigits}[1]{%`
`\renewcommand*{\@glsfirstletter}{#1}}`
`\newcommand*{\s@GlsSetXdyFirstLetterAfterDigits}[1]{%`
`\renewcommand*{\@glsfirstletter}{#1}`
`\@onelevel@sanitize\@glsfirstletter`
`}`
`\else`
`\newcommand*{\@GlsSetXdyFirstLetterAfterDigits}[1]{%`
`\glsnoxywarning\GlsSetXdyFirstLetterAfterDigits}`
`\newcommand*{\s@GlsSetXdyFirstLetterAfterDigits}{%`
`\@GlsSetXdyFirstLetterAfterDigits`
`}`
`\fi`

`\@xdynumbergrouporder` Specifies the order of the number group.
`\ifglsxindy`
`\newcommand*{\@xdynumbergrouporder}{:before \string"\@glsfirstletter\string"}`
`\fi`

`\GlsSetXdyNumberGroupOrder` Sets the relative location of the number group. The starred version sanitizes.
`\newcommand*{\GlsSetXdyNumberGroupOrder}[1]{%`
`\@ifstar\s@GlsSetXdyNumberGroupOrder\@GlsSetXdyNumberGroupOrder`
`}`
`\ifglsxindy`
`\newcommand*{\@GlsSetXdyNumberGroupOrder}[1]{%`
`\renewcommand*{\@xdynumbergrouporder}{#1}`
`}`
`\newcommand*{\s@GlsSetXdyNumberGroupOrder}[1]{%`
`\renewcommand*{\@xdynumbergrouporder}{#1}`
`\@onelevel@sanitize\@xdynumbergrouporder`
`}`
`\else`
`\newcommand*{\@GlsSetXdyNumberGroupOrder}[1]{%`
`\glsnoxywarning\GlsSetXdyNumberGroupOrder}`

```

        \newcommand*{\s@GlsSetXdyNumberGroupOrder}{%
        \@GlsSetXdyNumberGroupOrder}
    \fi

\@glsminrange Define the minimum number of successive location references to merge into a
range.
    \newcommand*{\@glsminrange}{2}

\GlsSetXdyMinRangeLength Set the minimum range length. The value must either be none or a positive
integer. The glossaries package doesn't check if the argument is valid, that is
left to xindy.
    \ifglxindy
        \newcommand*{\GlsSetXdyMinRangeLength}[1]{%
        \renewcommand*{\@glsminrange}{#1}}
    \else
        \newcommand*{\GlsSetXdyMinRangeLength}[1]{%
        \glsnxindywarning\GlsSetXdyMinRangeLength}
    \fi

\writeist
    \ifglxindy
Code to use if xindy is required.
        \def\writeist{%
Define write register if not already defined
            \ifundef{\glswrite}{\newwrite\glswrite}{}%
Update attributes list
            \@gls@addpredefinedattributes
Open the file.
            \openout\glswrite=\istfilename
Write header comment at the start of the file
            \write\glswrite{;; xindy style file created by the glossaries
            package}%
            \write\glswrite{;; for document '\jobname' on
            \the\year-\the\month-\the\day}%
Specify the required styles
            \write\glswrite{^^J; required styles^^J}
            \for\@xdystyle=\@xdyrequiredstyles\do{%
                \ifx\@xdystyle\@empty
                \else
                    \protected@write\glswrite}{(require
                    \string"\@xdystyle.xdy\string")}%
                \fi
            }%
    \fi

```


List the allowed attributes (possible values used by the format key)

```
\write\glswrite{^^J%
; list of allowed attributes (number formats)^^J}%
\write\glswrite{(define-attributes ((\@xdyattributes)))}%
```

Define any additional alphabets

```
\write\glswrite{^^J; user defined alphabets^^J}%
\write\glswrite{\@xdyuseralphabets}%
```

Define location classes.

```
\write\glswrite{^^J; location class definitions^^J}%
```

As from version 3.0, locations are now specified as $\langle Hprefix \rangle \langle number \rangle$, so need to add all possible combinations of location types.

```
\@for\@gls@classI:=\@gls@xdy@locationlist\do{%
```

Case where $\langle Hprefix \rangle$ is empty:

```
\protected@write\glswrite{}{(define-location-class
\string"\@gls@classI\string"^^J\space\space\space
(
:sep "{"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
:sep "}"
)
^^J\space\space\space
:min-range-length \@glsminrange^^J%
)
}%
```

Nested iteration over all classes:

```
{%
\@for\@gls@classII:=\@gls@xdy@locationlist\do{%
\protected@write\glswrite{}{(define-location-class
\string"\@gls@classII-\@gls@classI\string"
^^J\space\space\space
(
:sep "{"
\csname @gls@xdy@Lclass@\@gls@classII\endcsname\space
:sep "}"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
:sep "}"
)
^^J\space\space\space
:min-range-length \@glsminrange^^J%
)
}%
}%
}%
}%
```

User defined location classes (needs checking for new location format).

```
\write\glswrite{^^J; user defined location classes}%
```

```
\write\glswrite{\@xdyuserlocationdefs}%
```

Cross-reference class. (The unverified option is used as the cross-references are supplied using the list of labels along with the optional argument for `\glsseeformat` which xindy won't recognise.)

```
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
:unverified )}%
```

Define how cross-references should be displayed. This adds an empty set of braces after the cross-referencing information allowing for the final argument of `\glsseeformat` which gets ignored. (When using `makeindex` this final argument contains the location information which is not required.)

```
\write\glswrite{(markup-crossref-list
: class \string"see\string"^^J\space\space\space
: open \string"\string\glsseeformat\string"
: close \string"{}\string")}%
```

Provide hook to write extra material here (used by `glossaries-extra` to define a `seealso` class).

```
\@xdycrossrefhook
```

List the order to sort the classes.

```
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
(\@xdylocationclassorder))}%
```

Specify what to write to the start and end of the glossary file.

```
\write\glswrite{^^J; define the glossary markup^^J}%

\write\glswrite{(markup-index^^J\space\space\space
: open \string"\string
\glossarysection[\string\glossarytoctitle]{\string
\glossarytitle}\string\glossarypreamble}%
```

Add all the xindy-only macro definitions (needed to prevent errors in the event that the user changes from xindy to `makeindex`)

```
\@for\@this@ctr:=\@xdycounters\do{%
{%
\@for\@this@attr:=\@xdyattributelist\do{%
\protected@write\glswrite{ }\string\providecommand*%
\expandafter\string
\csname glsX\@this@ctr X\@this@attr\endcsname[2]%
{%
\string\setentrycounter
[\expandafter\@gobble\string\#1]{\@this@ctr}%
\expandafter\string
\csname\@this@attr\endcsname
{\expandafter\@gobble\string\#2}%
}%
}%
}%
```

```
}%
}%
```

Add the end part of the open tag and the rest of the markup-index information:

```
\write\glswrite{%
  \string\begin
  {theglossary}\string\glossaryheader\glstildechar n\string" ^^J\space
  \space\space:close \string"\glpercentchar\glstildechar n\string
  \end{theglossary}\string\glossarypostamble
  \glstildechar n\string" ^^J\space\space\space
  :tree)}%
```

Specify what to put between letter groups

```
\write\glswrite{(markup-letter-group-list
  :sep \string"\string\glsgroupskip\glstildechar n\string")}%
```

Specify what to put between entries

```
\write\glswrite{(markup-indexentry
  :open \string"\string\relax \string\glsresetentrylist
  \glstildechar n\string")}%
```

Specify how to format entries

```
\write\glswrite{(markup-locclass-list :open
  \string"\glsopenbrace\string\glossaryentrynumbers
  \glsopenbrace\string\relax\space \string"^^J\space\space\space
  :sep \string", \string"
  :close \string"\glsclosebrace\glsclosebrace\string")}%
```

Specify how to separate location numbers

```
\write\glswrite{(markup-locref-list
  :sep \string"\string\delimN\space\string")}%
```

Specify how to indicate location ranges

```
\write\glswrite{(markup-range
  :sep \string"\string\delimR\space\string")}%
```

Specify 2-page and 3-page suffixes, if defined. First, the values must be sanitized to write them explicitly.

```
\@onelevel@sanitize\gls@suffixF
\@onelevel@sanitize\gls@suffixFF

\ifx\gls@suffixF\@empty
\else
  \write\glswrite{(markup-range
    :close "\gls@suffixF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffixFF\@empty
\else
  \write\glswrite{(markup-range
    :close "\gls@suffixFF" :length 2 :ignore-end)}%
\fi
```

Specify how to format locations.

```
\write\glswrite{^^J; define format to use for locations^^J}%  
\write\glswrite{\@xdylocref}%
```

Specify how to separate letter groups.

```
\write\glswrite{^^J; define letter group list format^^J}%  
\write\glswrite{(markup-letter-group-list  
:sep \string"\string\glsgroupskip\glstildechar n\string")}%
```

Define letter group headings.

```
\write\glswrite{^^J; letter group headings^^J}%  
\write\glswrite{(markup-letter-group  
:open-head \string"\string\glsgroupheading  
\glsopenbrace\string"^^J\space\space\space  
:close-head \string"\glsclosebrace\string")}%
```

Define additional letter groups.

```
\write\glswrite{^^J; additional letter groups^^J}%  
\write\glswrite{\@xdylettergroups}%
```

Define additional sort rules

```
\write\glswrite{^^J; additional sort rules^^J}  
\write\glswrite{\@xdysortrules}%
```

Hook for any additional information:

```
\@gls@writeisthook
```

Close the style file

```
\closeout\glswrite
```

Suppress any further calls.

```
\let\writeist\relax  
\let\noist\@gls@noist@toolate  
}
```

\else

Code to use if makeindex is required.

```
\edef\@gls@actualchar{\string?}  
\edef\@gls@encapchar{\string|}  
\edef\@gls@levelchar{\string!}  
\edef\@gls@quotechar{\string"}%  
\let\GlsSetQuote\gls@nosetquote  
\def\writeist{\relax  
\ifundef{\glswrite}{\newwrite\glswrite}{\relax  
\openout\glswrite=\istfilename  
\write\glswrite{\glspercentchar\space makeindex style file  
created by the glossaries package}  
\write\glswrite{\glspercentchar\space for document  
'\jobname' on \the\year-\the\month-\the\day}  
\write\glswrite{actual '\@gls@actualchar'}  
\write\glswrite{encap '\@gls@encapchar'}  
\write\glswrite{level '\@gls@levelchar'}  
\write\glswrite{quote '\@gls@quotechar'}}
```

```

\write\glswrite{keyword \string\string\glossaryentry\string"}
\write\glswrite{preamble \string\string\glossarysection[\string
  \glossarytoctitle]{\string\glossarytitle}\string
  \glossarypreamble\string\n\string\begin{theglossary}\string
  \glossaryheader\string\n\string"}
\write\glswrite{postamble \string\string%\string\n\string
  \end{theglossary}\string\glossarypostamble\string\n
  \string"}
\write\glswrite{group_skip \string\string\glsgroupskip\string\n
  \string"}
\write\glswrite{item_0 \string\string%\string\n\string"}
\write\glswrite{item_1 \string\string%\string\n\string"}
\write\glswrite{item_2 \string\string%\string\n\string"}
\write\glswrite{item_01 \string\string%\string\n\string"}
\write\glswrite{item_x1
  \string\string\relax \string\glsresetentrylist\string\n
  \string"}
\write\glswrite{item_12 \string\string%\string\n\string"}
\write\glswrite{item_x2
  \string\string\relax \string\glsresetentrylist\string\n
  \string"}

\write\glswrite{delim_0 \string\string\{\string
  \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_1 \string\string\{\string
  \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_2 \string\string\{\string
  \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_t \string\string\}\string}\string"}
\write\glswrite{delim_n \string\string\delimN \string"}
\write\glswrite{delim_r \string\string\delimR \string"}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
  \string\string\glsgroupheading\string\{\string"}
\write\glswrite{heading_suffix
  \string\string\}\string\relax
  \string\glsresetentrylist \string"}
\write\glswrite{symhead_positive \string"glssymbols\string"}
\write\glswrite{numhead_positive \string"glnumbers\string"}
\write\glswrite{page_compositor \string"glscpositor\string"}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
  \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF\@empty
\else
  \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi

```

Hook for any additional information:

```
\@gls@writeisthook
```

Close the file and disable \writeist.

```
\closeout\glswrite
\let\writeist\relax
\let\noist\@gls@noist@toolate
}
\fi
```

\GlsSetWriteIstHook Allow user to append information to the style file.

```
\newcommand*\GlsSetWriteIstHook[1]{\renewcommand*\@gls@writeisthook}{#1}}
\@onlypremakeg\GlsSetWriteIstHook
```

\@gls@writeisthook

```
\newcommand*\@gls@writeisthook{}
```

\GlsSetQuote Allow user to set the makeindex quote character. This is primarily for ngerman users who want to use makeindex's -g option.

```
\ifglsxindy
\newcommand*\GlsSetQuote[1]{\glsnomakeindexwarning\GlsSetQuote}
\newcommand*\gls@nosetquote[1]{\glsnomakeindexwarning\GlsSetQuote}
\else
\newcommand*\GlsSetQuote[1]{\edef\@gls@quotechar{\string#1}}%
```

If German is in use, set the extra makeindex option so makeglossaries can pick it up.

```
\@ifpackageloaded{tracklang}%
{%
\IfTrackedLanguage{german}%
{%
\def\@gls@extramakeindexopts{-g}}%
}%
}%
}
```

Need to redefine \@gls@checkquote

```
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkquote####1#1####2#1####3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={####1}}%
\noexpand\ifx\noexpand\null####2\noexpand\null
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
```

```

\noexpand\@gls@quotechar\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1#1\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1###3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkquote
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\renewcommand{\noexpand\@gls@checkmkidxchars}[1]{%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkquote###1\noexpand\@nil
#1#1\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkescquote###1\noexpand\@nil
\expandonce{\cname#1\endcname}\expandonce{\cname#1\endcname}%
\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkescactual###1\noexpand\@nil
\noexpand\?\noexpand\?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkactual###1\noexpand\@nil
\noexpand?\noexpand?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkbar###1\noexpand\@nil
\noexpand|\noexpand|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}

```

```

\noexpand\expandafter\noexpand\@gls@checkeschar####1\noexpand\@nil
\noexpand\|\noexpand\|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checklevel####1\noexpand\@nil
\noexpand!\noexpand!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%

\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkescllevel####1\noexpand\@nil
\noexpand!\noexpand!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%

\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkesc####1\noexpand\@nil
\@backslashchar\@backslashchar\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkescquote####1%
\expandonce{\csname#1\endcsname}####2\expandonce{\csname#1\endcsname}%
####3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={####1}%
\noexpand\ifx\noexpand\null####2\noexpand\null
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkescquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkescquote{%
\noexpand\@gls@checkescquote####3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string
\expandonce{\csname#1\endcsname}\noexpand\@gls@quotechar}%

```



```

\expand\ifx\expand\null###\expand\null
\expand\def\expand\@gls@checkescquote{%
\expand@gls@checkescquote###\expandonce{\csname#1\endcsname}%
\expandonce{\csname#1\endcsname}\expand\null}%
\expand\else
\expand\def\expand\@gls@checkescquote{%
\expand@gls@checkescquote###\expandonce{\csname#1\endcsname}%
###\expand\null}%
\expand\fi
\expand\fi
\expand\@gls@checkescquote
}%
}%
\gls@docheckquotedef
}
\newcommand*\gls@nosetquote}[1]{\PackageError{glossaries}%
{\string\GlsSetQuote\space not permitted here}%
{Move \string\GlsSetQuote\space earlier in the preamble, as
soon as possible after glossaries.sty has been loaded}}
\fi

```

```
\gls@extramakeindexopts
```

```
\newcommand*\gls@extramakeindexopts}[1]{}
```

The command `\noist` will suppress the creation of the `.ist` file. Obviously you need to use this command before `\writeist` to have any effect.

```
\noist
```

```

\newcommand{\noist}{%
Update attributes list
\gls@addpredefinedattributes
\let\writeist\relax
}

```

```
\gls@noist@toolate
```

```

\newcommand{\gls@noist@toolate}{%
\GlossariesWarning{too late to use \string\noist. The style file
has already been written}%
}

```

`\makeglossary` is an internal command that takes an argument indicating the glossary type. This command will create the glossary file required by `makeindex` for the given glossary type, using the extension supplied by the `<out-ext>` parameter used in `\newglossary` (and it will also activate the `\glossary` command, and create the customized `.ist` `makeindex` style file).

Note that you can't use `\makeglossary` for only some of the defined glossaries (with just the base `glossaries` package). You either need to have a `\makeglossaries` for all glossaries or none (otherwise you will end up with a

situation where T_EX is trying to write to a non-existent file). The relevant glossary must be defined prior to using `\@makeglossary`. `glossaries-extra` allows for a hybrid approach.

`\@makeglossary` Unstarred form of `\ifglossaryexists` is used as `\@makeglossary` can't be used with an ignored glossary.

```
\newcommand*\@makeglossary}[1]{%
  \ifglossaryexists{#1}%
  {%
```

Only create a new write if `savewrites=false` otherwise create a token to collect the information.

```
  \ifglssavewrites
    \expandafter\newtoks\csname glo@#1@filetok\endcsname
  \else
    \expandafter\newwrite\csname glo@#1@file\endcsname
    \expandafter\@glsoopenfile\csname glo@#1@file\endcsname{#1}%
  \fi
  \@gls@renewglossary
  \writeist
}%
{%
  \PackageError{glossaries}%
  {Glossary type ‘#1’ not defined}%
  {New glossaries must be defined before using \string\makeglossaries}%
}%
}
```

`\@glsoopenfile` Open write file associated with the given glossary.

```
\newcommand*\@glsoopenfile}[2]{%
  \immediate\openout#1=\jobname.\csname @glstype@#2@out\endcsname
  \PackageInfo{glossaries}{Writing glossary file
    \jobname.\csname @glstype@#2@out\endcsname}%
}
```

`\@closegls`

```
\newcommand*\@closegls}[1]{%
  \closeout\csname glo@#1@file\endcsname
}
```

`\@gls@automake` Unstarred form of `\ifglossaryexists` is used as `\@gls@automake` can't be used with an ignored glossary.

```
\ifglsxindy
\newcommand*\@gls@automake}[1]{%
  \ifglossaryexists{#1}
  {%
    \@closegls{#1}%
    \ifdefstring{\glsorder}{letter}%
    {\def\@gls@order{-M ord/letorder }}%
  }
```

```

    {\let\@gls@order\@empty}%
    \gls@xdy@set@lang{#1}%

    \ifdefvoid\gls@codepage
    {\let\@gls@codepage\@empty}%
    {\def\@gls@codepage{-C \gls@codepage\space}}%
    \@gls@run@unrestricted@shell{xindy
    -I xindy
    \@gls@order
    -L \@gls@langmod\space
    -M \@gls@run@output@file{\gls@istfilebase}
    \@gls@codepage
    -t \@gls@run@output@file{\jobname.\csuse{@glotype@#1@log}}
    -o \@gls@run@output@file{\jobname.\csuse{@glotype@#1@in}}
    \@gls@run@output@file{\jobname.\csuse{@glotype@#1@out}}}%
    }%
  }%
  {%
  \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
  }%
}
\else
\newcommand*{\@gls@automake}[1]{%
  \ifglossaryexists{#1}
  {%
  \@closegls{#1}%
  \ifdefstring{\glsorder}{letter}%
  {\def\@gls@order{-l }}%
  {\let\@gls@order\@empty}%
  \@gls@runshell{makeindex \@gls@order
  -s \@gls@run@output@file{\istfilename}
  -t \@gls@run@output@file{\jobname.\csuse{@glotype@#1@log}}
  -o \@gls@run@output@file{\jobname.\csuse{@glotype@#1@in}}
  \@gls@run@output@file{\jobname.\csuse{@glotype@#1@out}}}%
  }%
  }%
  {%
  \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
  }%
}
\fi

```

`\@gls@automake@immediate` Unstarred form of `\ifglossaryexists` is used as `\@gls@automake@immediate` can't be used with an ignored glossary. Note that “out” means the output file from this package's point of view. It will be the input file from the indexing application's point of view.

```

\ifglsxindy
\newcommand*{\@gls@automake@immediate}[1]{%
  \ifglossaryexists{#1}
  {%

```

```

\IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
{%
  \ifdefstring{\glsorder}{letter}%
  {\def\@gls@order{-M ord/letorder }}%
  {\let\@gls@order\@empty}%
Set \@gls@langmod:
  \gls@xdy@set@lang{#1}%

  \ifdefvoid\gls@codepage
  {\let\@@gls@codepage\@empty}%
  {\def\@@gls@codepage{-C \gls@codepage\space}}%
  \@gls@run@unrestricted@shell{xindy
  -I xindy
  \@gls@order
  -L \@gls@langmod\space
  -M \@gls@run@output@file{\gls@istfilebase}
  \@gls@codepage
  -t \@gls@run@output@file{\jobname.\csuse{@glotype@#1@log}}
  -o \@gls@run@output@file{\jobname.\csuse{@glotype@#1@in}}
  \@gls@run@output@file{\jobname.\csuse{@glotype@#1@out}}}%
  }%
  }%
  {\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
  doesn't exist. Rerun may be required}}%
  }%
  {\%
  \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
  }%
}
\else
\newcommand*{\@gls@automake@immediate}[1]{%
  \ifglossaryexists{#1}
  {%
  \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
  {%
  \ifdefstring{\glsorder}{letter}%
  {\def\@gls@order{-l }}%
  {\let\@gls@order\@empty}%
  \@gls@runshell{makeindex \@gls@order
  -s \@gls@run@output@file{\istfilename}
  -t \@gls@run@output@file{\jobname.\csuse{@glotype@#1@log}}
  -o \@gls@run@output@file{\jobname.\csuse{@glotype@#1@in}}
  \@gls@run@output@file{\jobname.\csuse{@glotype@#1@out}}}%
  }%
  }%
  {\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
  doesn't exist. Rerun may be required}}%
  }%
  {\%
  \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
  }%
}

```

```

    }%
  }
\fi

```

`\warn@nomakeglossaries` Issue warning that `\makeglossaries` hasn't been used.

```
\newcommand*{\warn@nomakeglossaries}{}

```

Only use this if warning if `\printglossary` has been used without `\makeglossaries`

```
\newcommand*{\warn@nomakeglossaries}{\warn@nomakeglossaries}

```

`\@gls@automake@types` The list of glossaries to build if automake is on. Provided for glossaries-extra's hybrid option.

```
\newcommand{\@gls@automake@types}{\@glo@types}

```

`\@gls@@automake@immediate`

```

\newcommand{\@gls@@automake@immediate}{%
\ifnum\gls@automake@nr=2\relax
  \protected@edef\gls@tmp{\@gls@automake@types}%
  \@for\@gls@type:=\gls@tmp\do{%
    \ifdefempty{\@gls@type}{}%
    {\@gls@automake@immediate{\@gls@type}}%
  }%
  \glsautomakefalse
  \renewcommand*{\@gls@doautomake}{}%
\else
  \ifdefempty\gls@automake@makegloss{}%
  {%
    \IfFileExists{\jobname.aux}%
    {\@gls@run@unrestricted@shell{\@gls@automake@makegloss\space \jobname}}{}%
    \glsautomakefalse
    \renewcommand*{\@gls@doautomake}{}%
  }%
\fi
}

```

`\makeglossaries` will use `\@makeglossary` for each glossary type that has been defined. New glossaries need to be defined before using `\makeglossary`, so have `\makeglossaries` redefine `\newglossary` to prevent it being used afterwards.

`\makeglossaries`

```

\newcommand*{\makeglossaries}{%
\ifglxindy
  \def\glsindexingsetting{xindy}%
\else
  \def\glsindexingsetting{makeindex}%
\fi
\@domakeglossaries
}%

```

If automake=immediate setting is on, use the shell escape now.

```
\@gls@automake@immediate
```

Define the write used for style file also used for all other output files if savewrites=true.

```
\ifundef{\glswrite}{\newwrite\glswrite}{}%
```

If the user removes the glossary package from their document, ensure the next run doesn't throw a load of undefined control sequence errors when the aux file is parsed.

```
\protected@write\@auxout{}{\string\providecommand\string\@glsorder[1]{}}
\protected@write\@auxout{}{\string\providecommand\string\@istfilename[1]{}}
```

If \@gls@extramakeindexopts has been defined, write it:

```
\ifundef\@gls@extramakeindexopts
{}%
{%
\protected@write\@auxout{}{\string\providecommand
\string\@gls@extramakeindexopts[1]{}}
\protected@write\@auxout{}{\string\@gls@extramakeindexopts
{\@gls@extramakeindexopts}}%
}%
```

Write the name of the style file to the aux file (needed by makeglossaries)

```
\protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{}{\string\@glsorder{\@glsorder}}
```

Iterate through each glossary type and activate it.

```
\@for\@glo@type:=\@glo@types\do{%
\ifthenelse{\equal{\@glo@type}{}}{}{}%
\@makeglossary{\@glo@type}}%
}%
```

New glossaries must be created before \makeglossaries so disable \newglossary.

```
\renewcommand*\newglossary[4]{}%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%
```

Any subsequent instances of this command should have no effect. The deprecated \makeglossary is not redefined here as it either implements \makeglossaries or has been restored to its original definition (in which case it shouldn't be changed).

```
\let\@makeglossary\@gobble
\let\makeglossaries\relax
```

Disable all commands that have no effect after \makeglossaries

```
\@disable@onlypremakeg
```

Allow see key:

```
\let\gls@checkseeallowed\relax
```

```

Suppress warning about no \makeglossaries
  \let\warn@nomakeglossaries\relax
Activate warning about missing \printglossary
  \let\warn@noprintglossary\makeglossaries@warn@noprintglossary
Declare list parser for \glsdisplaynumberlist
  \ifglssavenumberlist
    \edef\@gls@dodolistparser{\noexpand\DeclareListParser
      {\noexpand\glsnumlistparser}{\delimN}}%
    \@gls@dodolistparser
  \fi
Prevent user from also using \makenoidxglossaries
  \let\makenoidxglossaries\@no@makeglossaries
Prohibit sort key in printgloss family:
  \renewcommand*{\@printgloss@setsort}{%
    \let\@glo@assign@sortkey\@glo@no@assign@sortkey
  }%
Check the automake setting:
  \ifglsautomake
    \renewcommand*{\@gls@doautomake}{%
      \protected@edef\gls@tmp{\@gls@automake@types}%
      \@for\@gls@type:=\gls@tmp\do{%
        \ifdefempty{\@gls@type}{}%
        {\@gls@automake{\@gls@type}}%
      }%
    }%
  \fi
Check the sort setting:
  \@glo@check@sortallowed\makeglossaries
}%
}
Must occur in the preamble:
\@onlypreamble{\makeglossaries}

saries@warn@noprintglossary
\newcommand\@makeglossaries@warn@noprintglossary{%
  \ifdefstring{\@glo@types}{,}%
  {%
    \GlossariesWarningNoLine{No glossaries have been defined}%
  }%
  {%
    \GlossariesWarningNoLine{No \string\printglossary\space
      or \string\printglossaries\space
      found. ^^J(Remove \string\makeglossaries\space if you
      don't want any glossaries.) ^^JThis document will not
      have a glossary}%
  }%
}

```

```
}%
}%
```

`\glswrite` The definition of `\glswrite` has now been moved to `\makeglossaries` so that it's only defined if needed.

If `\makeglossaries` hasn't been used, issue a warning. Also issue a warning if neither `\printglossaries` nor `\printglossary` have been used.

```
\AtEndDocument{%
  \warn@nomakeglossaries
  \warn@noprintglossary
}
```

`\makenoidxglossaries` Analogous to `\makeglossaries` this activates the commands needed for `\printnoidxglossary`

```
\newcommand*\makenoidxglossaries{%
  \def\glsindexingsetting{noidx}%
  \@domakeglossaries
  {%
```

Redefine empty glossary warning:

```
\renewcommand{\@gls@noref@warn}[1]{%
  \GlossariesWarning{Empty glossary for
  \string\printnoidxglossary[type=##1]}.
  Rerun may be required (or you may have forgotten to use
  commands like \string\gls)}%
}%
```

Don't escape makeindex/xindy characters:

```
\let\@gls@checkmkidxchars\@gobble
```

Don't escape locations:

```
\glsesclocationsfalse
```

Write glossary information to aux instead of glossary files

```
\let\@do@wrglossary\gls@noidxglossary
```

Switch on group headings that use the character code:

```
\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle
```

Allow see key:

```
\let\gls@checkseeallowed\relax
```

Redefine cross-referencing macro:

```
\renewcommand{\@do@seeglossary}[2]{%
  \protected@edef\@gls@label{\glsdetoklabel{##1}}%
  \protected@write\@auxout{}{%
    \string\@gls@reference
    {\csname glo@\@gls@label @type\endcsname}%
    {\@gls@label}%
    {%
      \string\glsseeformat##2}%
    }%
  }%
```

```
}%
}%
```


If user removes the glossaries package from their document, ensure the next run doesn't throw a load of undefined control sequence errors when the aux file is parsed.

```
\AtBeginDocument
{%
\write\@auxout{\string\providecommand\string\@gls@reference[3]{}}%
}%
```

Change warning about no glossaries

```
\def\warn@noprintglossary{%
\GlossariesWarningNoLine{No \string\printnoidxglossary\space
or \string\printnoidxglossaries ^^J
found. (Remove \string\makenoidxglossaries\space if you
don't want any glossaries.)^^JThis document will not have a glossary}%
}%
```

Suppress warning about no \makeglossaries

```
\let\warn@nomakeglossaries\relax
```

Prevent user from also using \makeglossaries

```
\let\makeglossaries\@no@makeglossaries
```

Allow sort key in printgloss family:

```
\renewcommand*{\@printgloss@setsort}{%
\let\@glo@assign@sortkey\@glo@assign@sortkey
```

Initialise default sort order:

```
\def\@glo@sorttype{\@glo@default@sorttype}%
}%
```

All entries must be defined in the preamble:

```
\renewcommand*\new@glossaryentry[2]{%
\PackageError{glossaries}{Glossary entries must be
defined in the preamble^^Jwhen you use
\string\makenoidxglossaries}%
{Either move your definitions to the preamble or use
\string\makeglossaries}%
}%
```

Redefine \glsentrynumberlist

```
\renewcommand*\glsentrynumberlist[1]{%
\letcs{\@gls@loclist}{glo@\glsdetoklabel{##1}@loclist}%
\ifdef\@gls@loclist
{%
\glsnoidxloclist{\@gls@loclist}%
}%
{%
??\glsdoifexists{##1}%
{%
\GlossariesWarning{Missing location list for '##1'. Either
a rerun is required or you haven't referenced the entry}%
}%
}%
```

```

    }%
  }%
Redefine \glsdisplaynumberlist
\renewcommand*{\glsdisplaynumberlist}[1]{%
  \letcs{\@gls@loclist}{glo\glsdetoklabel{##1}@loclist}%
  \ifdef\@gls@loclist
  {%
    \def\@gls@noidxloclist@sep{%
      \def\@gls@noidxloclist@sep{%
        \def\@gls@noidxloclist@sep{%
          \glsnumlistsep
        }%
      \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
    }%
  }%
  \def\@gls@noidxloclist@finalsep{}%
  \def\@gls@noidxloclist@prev{}%
  \forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
  \@gls@noidxloclist@finalsep
  \@gls@noidxloclist@prev
}%
{%
  ??\glsdoifexists{##1}%
  {%
    \GlossariesWarning{Missing location list for ‘##1’. Either
      a rerun is required or you haven’t referenced the entry}%
  }%
}%
}%

```

Provide a generic way of iterating through the number list:

```

\renewcommand*{\glsnumberlistloop}[3]{%
  \letcs{\@gls@loclist}{glo\glsdetoklabel{##1}@loclist}%
  \let\@gls@org@glsnoidxdisplayloc\glsnoidxdisplayloc
  \let\@gls@org@glsseeformat\glsseeformat
  \let\glsnoidxdisplayloc##2\relax
  \let\glsseeformat##3\relax
  \ifdef\@gls@loclist
  {%
    \forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
  }%
  {%
    ??\glsdoifexists{##1}%
    {%
      \GlossariesWarning{Missing location list for ‘##1’. Either
        a rerun is required or you haven’t referenced the entry}%
    }%
  }%
  \let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
  \let\glsseeformat\@gls@org@glsseeformat

```

```

}%
Modify sanitize sort function
\let\@gls@sanitizesort\gls@noidx@sanitizesort
\let\@gls@nosanitizesort\@gls@noidx@nosanitizesort
\gls@noidx@setsanitizesort
Check sort option allowed.
\gls@check@sortallowed\makenoidxglossaries
Implement nonumberlist
\let\@gls@savenonumberlist\gls@noidx@nonumberlist
}%
}
Preamble-only command:
\@onlypreamble{\makenoidxglossaries}

```

```
\glsnumberlistloop{<label>}{<handler>}{<xr handler cs>}
```

\glsnumberlistloop

```

\newcommand*\glsnumberlistloop}[3]{%
  \PackageError{glossaries}{\string\glsnumberlistloop\space
    only works with \string\makenoidxglossaries}{}%
}

```

\glsnoidxnumberlistloophandler Handler macro for \glsnumberlistloop. (The argument should be in the form \glsnoidxdisplayloc{<prefix>}{<counter>}{<format>}{<n>})

```

\newcommand*\glsnoidxnumberlistloophandler}[1]{%
  #1%
}

```

\@no@makeglossaries Can't use both \makeglossaries and \makenoidxglossaries

```

\newcommand*\@no@makeglossaries{%
  \PackageError{glossaries}{You can't use both
    \string\makeglossaries\space and \string\makenoidxglossaries}%
  {Either use one or other (or none) of those commands but not both
    together.}%
}

```

\@gls@noref@warn Warning when no instances of \@gls@reference found.

```

\newcommand*\@gls@noref@warn}[1]{%
  \GlossariesWarning{\string\makenoidxglossaries\space
    is required to make \string\printnoidxglossary[type={#1}] work}%
}

```

2.14 Writing information to associated files

`\gls@noidxglossary` Write the glossary information to the aux file (for the ‘noidx’ method).

```
\newcommand*{\gls@noidxglossary}{%
  \protected@write\auxout{\gls@wrglossdisablelocationcmds}{%
    \string\@gls@reference
    {\csname glo@\@gls@label @type\endcsname}%
    {\@gls@label}%
    {\string\glsnoidxdisplayloc
     {\@glo@counterprefix}%
     {\@gls@counter}%
     {\@glsnumberformat}%
     {\@glslocref}%
    }%
  }%
}
```

`\istfile` Deprecated in v3.0 (2011-04-02). Removed in v4.50.

At the end of the document, the files should be created if `savewrites=true`.

```
\AtEndDocument{%
  \glswritefiles
}
```

`\@glswritefiles` Only write the files if `savewrites=true`.

```
\newcommand*{\@glswritefiles}{%
```

Iterate through all the glossaries.

```
\foralllglossaries{\@glo@type}{%
```

Check for empty glossaries (patch provided by Patrick Häcker)

```
\ifcsundef{glo@\@glo@type @filetok}%
  {%
    \def\gls@tmp{}%
  }%
  {%
    \edef\gls@tmp{\expandafter\the
      \csname glo@\@glo@type @filetok\endcsname}%
  }%
  \ifx\gls@tmp\@empty
    \ifx\@glo@type\glsdefaulttype
      \GlossariesWarningNoLine{Glossary ‘\@glo@type’ has no
        entries.^^JRemember to use package option ‘nomain’ if
you
        don’t want to^^Juse the main glossary}%
    \else
      \GlossariesWarningNoLine{Glossary ‘\@glo@type’ has no
        entries}%
    \fi
  \else
```

```

        \@glsopenfile{\glswrite}{\@glo@type}%
        \immediate\write\glswrite{%
            \expandafter\the
            \csname glo@\@glo@type @filetok\endcsname}%
        \immediate\closeout\glswrite
    \fi
}
}

```

As from v4.10, the `\glossary` command isn't used by the `glossaries` package. Since the user isn't expected to use this command (as `glossaries` takes care of the particular format required for `makeindex/xindy`) there's no need for a user level command. Using a custom internal command prevents any conflict with other packages (and with the `\mark` mechanism).

The associated number should be stored in `\theglsentrycounter` before using `\gls@glossary`.

```

\gls@glossary
\newcommand*\gls@glossary[1]{%
    \gls@glossary{#1}%
}

```

```
\@gls@glossary{<type>}{<indexing info>}
```

```
\@gls@glossary
```

(In v4.10, `\glossary` was redefined to `\@gls@glossary` to avoid conflict with other packages.) Initially define internal `\@gls@glossary` to ignore its argument. Indexing will be enabled when `\@gls@glossary` is redefined by `\@makeglossary`.

This command was originally defined to do `\@index{<indexing info>}` so that it behaved much like `\index`. The definition was then changed to use `\index` as `memoir` changes the definition of `\@index`. (Thanks to Dan Luecking for pointing this out.)

However, if normal indexing is enabled (for example with `\makeindex`) but no glossary lists are required (so `\@makeglossary` isn't used), then `\index` will cause a problem here. The `\@index` trick allows for special characters within `<indexing info>` (so you can do, for example, `\index{%\%}`), and the original design of `\@glossary` here was actually a legacy from the old `glossary` package. With the `glossaries` package, the indexing information supplied in the second argument is more constrained and just consists of the sort value (given by the `sort key`), the actual value (given by `\glossentry{<label>}` or `\subglossentry{<level>}{<label>}`), and the format. This means that there's no need to worry about special characters appearing in the second argument as they can't be in the label or sort value. (If they are in the sort value then the category code would've needed to be changed when the entry was defined or `\glspercentchar` would be needed with the sort sanitization switched off.) This means that it's safe to simply ignore the second argument.

```

\newcommand*{\@gls@glossary}[2]{%
  \if@gls@debug
    \PackageInfo{glossaries}{wrglossary(#1)(#2)}%
  \fi
}

```

This is a convenience command to set `\@gls@glossary`. It's used by `\@makeglossary` and then redefined to do nothing, as it only needs to be done once.

`\@gls@renewglossary`

```

\newcommand{\@gls@renewglossary}{%
  \gdef\@gls@glossary##1{\@bsphack\begin@group\gls@wrglossary{##1}}%
  \let\@gls@renewglossary\@empty
}

```

The `\gls@wrglossary` command is defined to have two arguments. The first argument is the glossary type, the second argument is the glossary entry (the format of which is set in `\glslink`).

`\gls@wrglossary`

```

\newcommand*{\gls@wrglossary}[2]{%
  \ifgls@savewrites
    \protected@edef\@gls@tmp{\the\csname glo@#1@filetok\endcsname#2}%
    \expandafter\global\expandafter\csname glo@#1@filetok\endcsname
      \expandafter{\@gls@tmp~J}%
  \else
    \ifcsdef{glo@#1@file}%
      {%
        \expandafter\protected@write\csname glo@#1@file\endcsname{%
          \gls@disablepagerefexpansion}{#2}%
        }%
      {%
        \ifignoredglossary{#1}{}%
          {%
            \GlossariesWarning{No file defined for glossary ‘#1’}%
          }%
        }%
      \fi
    \endgroup\@esphack
  }

```

`\@do@wrglossary`

```

\newcommand*{\@do@wrglossary}[1]{%
  \gls@ifnotmeasuring{\glswriteentry{#1}{\@do@wrglossary{#1}}}%
}

```

`\glswriteentry` Provide a user level command so the user can customize whether or not a line should be added to the glossary. The arguments are the label and the code that writes to the glossary file.

```

\newcommand*\glswriteentry}[2]{%
  \ifglsindexonlyfirst
    \ifglsused{#1}{#2}%
  \else
    #2%
  \fi
}

```

`\gls@protected@pagefmts` List of page formats to be protected against expansion.

```

\newcommand{\gls@protected@pagefmts}{\gls@numberpage,\gls@alphpage,%
\gls@Alphpage,\gls@romanpage,\gls@Romanpage,\gls@arabicpage}

```

`\gls@disablepagerefexpansion` As from v4.50, this will only do the page protection formats for eslocations=true.

```

\newcommand*\gls@disablepagerefexpansion){%
  \glsrfglossdisablelocationcmds
  \ifglsesclocations
    \@for\@gls@this:=\gls@protected@pagefmts\do
      {%
        \expandafter\let\@gls@this\relax
      }%
  \fi
}

```

`\glsrfglossdisablelocationcmds`

```

\newcommand{\glsrfglossdisablelocationcmds}{}

```

`\gls@alphpage`

```

\newcommand*\gls@alphpage}{\@alph\c@page}

```

`\gls@Alphpage`

```

\newcommand*\gls@Alphpage}{\@Alph\c@page}

```

`\gls@numberpage`

```

\newcommand*\gls@numberpage}{\number\c@page}

```

`\gls@arabicpage`

```

\newcommand*\gls@arabicpage}{\@arabic\c@page}

```

`\gls@romanpage`

```

\newcommand*\gls@romanpage}{\romannumeral\c@page}

```

`\gls@Romanpage`

```

\newcommand*\gls@Romanpage}{\@Roman\c@page}

```

```

\glsaddprotectedpagefmt{<cs name>}

```

`\glsaddprotectedpagefmt`

Added a page format to the list of protected page formats. The argument should be the name (without a backslash) of the command that takes a \TeX register as the argument ($\langle csname \rangle \langle c \rangle \langle page \rangle$ must be valid).

```
\newcommand*\glsaddprotectedpagefmt}[1]{%
  \ifglsclocations
    \protected@eappto\gls@protected@pagefmts{\expandonce{\csname gls#1page\endcsname}}%
    \csedef{gls#1page}{\expandonce{\csname#1\endcsname}\noexpand\c@page}%
    \protected@eappto\wrglossarynumberhook{%
      \noexpand\let\expandonce{\csname org@gls#1\endcsname}%
      \expandonce{\csname#1\endcsname}%
      \noexpand\def\expandonce{\csname#1\endcsname}{%
        \noexpand\@wrglossary@pageformat
          \expandonce{\csname gls#1page\endcsname}%
          \expandonce{\csname org@gls#1\endcsname}%
        }%
      }%
    \else
      \GlsWarnAddProtectedPageFmt
    \fi
}
```

\backslash GlsWarnAddProtectedPageFmt

```
\newcommand{\GlsWarnAddProtectedPageFmt}{%
  \GlossariesWarning{\string\glsaddprotectedpagefmt\space has no
    effect with esclocations=false}%
}
```

\backslash wrglossarynumberhook Hook used by \backslash do@wrglossary

```
\newcommand*\@wrglossarynumberhook{}
```

\backslash @wrglossary@pageformat

```
\newcommand{\@wrglossary@pageformat}[3]{%
  \ifx#3\c@page #1\else #2#3\fi
}
```

\backslash do@wrglossary Write the glossary entry in the appropriate format.

```
\newcommand*\@do@wrglossary}[1]{%
  \ifglsclocations
    \@do@esc@wrglossary{#1}%
  \else
    \@do@noesc@wrglossary{#1}%
  \fi
}
```

glswrglossdisableanchorcmds

```
\newcommand{\glswrglossdisableanchorcmds}{\let\glstexorpdfstring\@secondoftwo}
\ifdef\texorpdfstring
  {\appto\glswrglossdisableanchorcmds{\let\texorpdfstring\@secondoftwo}}{}
\ifdef\pdfstringdefPreHook
  {\appto\glswrglossdisableanchorcmds{\pdfstringdefPreHook}}{}
}
```


`\glswrglosslocationtarget` Must expand. May be used to alter the location suffix in the `\glshypernumber` anchor.

```
\newcommand{\glswrglosslocationtarget}[1]{#1}
```

`\glswrglosslocationtextfmt` Used to encapsulate the hyperlink text in `\glshypernumber`.

```
\newcommand{\glswrglosslocationtextfmt}[1]{#1}
```

`\@do@noesc@wrglossary` Write the glossary entry in the appropriate format. The locations don't need to be pre-processed before writing the information to the glossary file, but the prefix still needs to be found.

```
\newcommand*{\@do@noesc@wrglossary}[1]{%
```

Don't fully expand yet.

```
\expandafter\def\expandafter\@glslocref\expandafter{\theglentrycounter}%
\expandafter\def\expandafter\@glsHlocref\expandafter{\theHglentrycounter}%
```

Find the prefix if `\@glsHlocref` and `\@glslocref` aren't the same.

```
\ifx\@glsHlocref\@glslocref
\def\@glo@counterprefix{%
\else
```

The value of the counter isn't important here as it's the prefix that's of interest. (`\c@page` will have the same value in both `\theglentrycounter` and `\theHglentrycounter` at this point, even if it hasn't been updated yet. The page number is not expected to occur in the prefix.)

```
\xp@gls@getcounterprefix{\@glslocref}{\@glsHlocref}%
\fi
```

De-tok label if required.

```
\protected@edef\@gls@label{\glsdetoklabel{#1}}%
```

Write the information to file:

```
\@do@@wrglossary
}
```

`\ifglswrallowprimitivemods` Conditional to determine whether or not `\@do@esc@wrglossary` should be allowed to temporarily redefine `\the` and `\number`. Version 4.50 switched the default to false.

```
\newif\ifglswrallowprimitivemods
\glswrallowprimitivemodsfalse
```

`\@do@esc@wrglossary` Write the glossary entry in the appropriate format. (Need to set `\@glsnumberformat` and `\@gls@counter` prior to use.) The argument is the entry's label. This is far more complicated with `xindy` than with other indexing methods. There are two necessary but conflicting requirements with `xindy`:

1. all backslashes in the location must be escaped;
2. `\c@page` can't be prematurely expanded.

(With `makeindex` there's the remote possibility that the page compositor is a `makeindex` special character, so that would also need to be escaped.)

For example, suppose `\thepage` is defined as

```
%\renewcommand{\thepage}{\tally{page}}
%\newcommand{\tally}[1]{\tallynum{\expandafter\the\csname c@#1\endcsname}}
%
```

where `\tallynum` is a robust command that takes a number as its argument. With all indexing methods other than `xindy`, a deferred write with `\thepage` as the location will expand to `\tallynum{<n>}` where `<n>` is the page number. Since the write is deferred, the page number is correct. (`makeindex` won't accept this location format, but `\makenoidxglossaries` and `bib2gls` are quite happy with it.) Unfortunately, this fails with `xindy` because `xindy` interprets this location as `\tallynum{<n>}` because `\t` represents a the character "t". The location must be written as `\\tallynum{<n>}`.

This means that the location `\tally{page}` must be expanded and then the backslashes must be doubled. Unfortunately `\c@page` mustn't be expanded until the deferred write is performed, so the location actually needs to be expanded to `\tallynum{\the\c@page}` but the backslashes in `\the\c@page` mustn't be escaped. All other backslashes must be escaped. (In this case, only the backslash in `\tallynum` but the location format may include other control sequences.) The code below works on the assumption that commands like `\tally` are defined in the form

```
%\newcommand{\tally}[1]{\tallynum{\expandafter\the\csname c@#1\endcsname}}
%
```

(note the use of `\expandafter` and `\name`) or in the form

```
%\newcommand{\tally}[1]{\tallynum{\arabic{#1}}}}
%
```

In the second case, `\arabic` is one of the known commands that's temporarily adjusted to prevent `\c@page` from being prematurely expanded. In the first case, `\the` is temporarily modified (unless `\glswrallowprimitivemodsfalse`) to check if it's followed by `\c@page`. The `\expandafter` ensures that it is. If `\tally` is defined in another way that hides `\c@page` for example using `\the\value{#1}` then the process fails.

With `makeindex`, `\tallynum` needs to expand to just the decimal number while writing the location to the glossary file, otherwise `makeindex` will reject it. This can be done by defining `\glstallypage` so that `\tally` can locally be set to `\arabic` while expansion is occurring. Again, `\c@page` must be protected from expansion until the deferred write occurs.

The expansion before the write occurs also allows the hyper prefix to be determined where `\theH{counter}` is defined in the form `<prefix>.\the{counter}`. It's possible (although again unlikely) that a `makeindex` character might occur in the prefix, which therefore needs escaping. The prefix is passed as the

optional argument of `\setentrycounter` which is needed by commands like `\glshypernumber` to create a hyperlink for a given counter (like `\hyperpage` but for an arbitrary counter).

```
\newcommand*{\@do@esc@wrglossary}[1]{% please read documented code!
\begingroup
```

First a bit of hackery to prevent premature expansion of `\c@page`. Store original definitions (scoped):

```
\let\gls@orgthe\the
\let\gls@orgnumber\number
\let\gls@orgarabic\@arabic
\let\gls@orgromannumeral\romannumeral
\let\gls@orgalph\@alph
\let\gls@orgAlph\@Alph
\let\gls@orgRoman\@Roman
```

Redefine:

```
\ifglswrallowprimitivemods
```

The redefinition of `\the` to use `\expandafter` solves the problem of `\the\csname c@{counter}\endcsname` but is only a partial solution to the problem of `\the\value`. With `\value`, `\c@page` is too deeply hidden and will be expanded too soon, but at least there won't be an error.

```
\def\gls@the##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgthe##1\fi}%
\def\the{\expandafter\gls@the}%
\def\gls@number##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgnumber##1\fi}%
\def\number{\expandafter\gls@number}%

\def\romannumeral##1{%
\ifx##1\c@page \gls@romanpage \else \gls@orgromannumeral##1\fi}%
\fi
\def\@arabic##1{%
\ifx##1\c@page \gls@arabicpage\else\gls@orgarabic##1\fi}%
\def\@Roman##1{%
\ifx##1\c@page \gls@Romanpage\else\gls@orgRoman##1\fi}%
\def\@alph##1{%
\ifx##1\c@page \gls@alphpage\else\gls@orgalph##1\fi}%
\def\@Alph##1{%
\ifx##1\c@page \gls@Alphpage\else\gls@orgAlph##1\fi}%
```

Add hook to allow for other number formats:

```
\@wrglossarynumberhook
```

Prevent expansion:

```
\gls@disablepagerefexpansion
```

Now store location in `\@glslocref`:

```
\protected@xdef\@glslocref{\theglentrycounter}%
\endgroup
```

Escape any special characters. It's possible that with `makeindex` the separator might be a `makeindex` special character. Although not likely, it still needs to be taken into account.

```
\@gls@checkmkidxchars\@glslocref
```

Check if the hyper-location is the same as the location and set the hyper prefix.

```
\expandafter\ifx\theHglentrycounter\theHglentrycounter\relax
\def\@glo@counterprefix{}%
\else
\protected@edef\@glsHlocref{\theHglentrycounter}%
\@gls@checkmkidxchars\@glsHlocref
\@xp@gls@getcounterprefix{\@glslocref}{\@glsHlocref}%
\fi
```

De-tok label if required

```
\protected@edef\@gls@label{\glsdetoklabel{#1}}%
```

Write the information to file:

```
\@do@@wrglossary
}
```

```
\@do@@wrglossary
```

```
\newcommand*{\@do@@wrglossary}{%
```

Determine whether to use `xindy` or `makeindex` syntax

```
\ifglxindy
```

Need to determine if the formatting information starts with a (or) indicating a range.

```
\expandafter\@glo@check@mkidxrangechar\@glsnumberformat\@nil
\def\@glo@range{}%
\expandafter\if\@glo@prefix\relax
\def\@glo@range{:open-range}%
\else
\expandafter\if\@glo@prefix\relax
\def\@glo@range{:close-range}%
\fi
\fi
```

Write to the glossary file using `xindy` syntax.

```
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
(indexentry :tkey (\csname glo@\@gls@label @index\endcsname)

:locref \string{\@glo@counterprefix}{\@glslocref}\string" %
:attr \string"\@gls@counter\@glo@suffix\string"
\@glo@range
)
}%
\else
```

Convert the format information into the format required for `makeindex`

```
\@set@glo@numformat{\@glo@numfmt}{\@gls@counter}{\@gls@numberformat}%
{\@glo@counterprefix}%
```

Write to the glossary file using `makeindex` syntax.

```
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
\string\glossaryentry{\csname glo@\@gls@label @index\endcsname
\@gls@encapchar\@glo@numfmt}{\@gls@locref}}%
\fi
}
```

`\@xp@gls@getcounterprefix`

```
\newcommand*\@xp@gls@getcounterprefix[2]{%
\bgrou
\gls@rgloss@disable@anchor@cmds
\protected@edef\@do@gls@getcounterprefix{%
\noexpand\egroup
\noexpand\@gls@getcounterprefix{#1}{#2}%
}%
\@do@gls@getcounterprefix
}
```

`\@gls@getcounterprefix` Get the prefix that needs to be prepended to counter in order to get the hyper counter. (For example, with the standard article class and `hyperref`, `\theequation` needs to be prefixed with `\section num`.) NB this assumes that the prefix ends with a dot, which is the standard. (Otherwise it makes the xindy location classes more complicated.)

The expansion has been moved to `\@xp@gls@getcounterprefix`.

```
\newcommand*\@gls@getcounterprefix[2]{%
\def\@gls@thisloc{#1}\def\@gls@thisHloc{#2}%
\ifx\@gls@thisloc\@gls@thisHloc
\def\@glo@counterprefix{}%
\else
\def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
\def\@glo@tmp{##2}%
\ifx\@glo@tmp\@empty
\def\@glo@counterprefix{}%
\else
\def\@glo@counterprefix{##1}%
\fi
}%
\@gls@get@counterprefix#2.#1\end@getprefix
```

Warn if no prefix can be formed.

```
\ifx\@glo@counterprefix\@empty
\GlossariesWarning{Hyper target ‘#2’ can’t be formed by
prefixing~^Jlocation ‘#1’. You need to modify the
definition of \string\theH\@gls@counter~^Jotherwise you
will get the warning: “‘name{\@gls@counter.#1}’ has been~^J
referenced but does not exist”}%
```

```

    \fi
  \fi
}

```

2.15 Glossary Entry Cross-References

`\@do@seeglossary` Write the glossary entry with a cross reference. The first argument is the entry's label, the second must be in the form `[\langle tag \rangle]{\langle list \rangle}`, where `\langle tag \rangle` is a tag such as "see" and `\langle list \rangle` is a list of labels.

```

\newcommand{\@do@seeglossary}[2]{%
\def\@gls@xref{#2}%
\@onelevel@sanitize\@gls@xref
\@gls@checkmkidxchars\@gls@xref
\ifglsxindy
\gls@glossary{\csname glo@#1@type\endcsname}{%
(indexentry
:tkey (\csname glo@#1@index\endcsname)
:xref (\string"\@gls@xref\string")
:attr \string"see\string"
)
}%
\else
\gls@glossary{\csname glo@#1@type\endcsname}{%
\string\glossaryentry{\csname glo@#1@index\endcsname
\@gls@encapchar glsseeformat\@gls@xref}{Z}}%
\fi
}

```

`\@gls@fixbraces` If no optional argument is specified, list needs to be enclosed in a set of braces.

```

\def\@gls@fixbraces#1#2#3\@nil{%
\ifx#2[\relax
\@gls@fixbraces#1#2#3\@end@fixbraces
\else
\def#1{#{#2#3}}%
\fi
}

```

`\@@gls@fixbraces`

```

\def\@@gls@fixbraces#1[#2]#3\@end@fixbraces{%
\def#1{[#2]{#3}}%
}

```

```

\glssee \glssee{\label}{\langle cross-ref list \rangle}
\newrobustcmd*{\glssee}[3][\seename]{%
\@do@seeglossary{#2}{[#1]{#3}}}
\newcommand*{\@glssee}[3][\seename]{%
\glssee[#1]{#3}{#2}}

```

`\glsseeformat` The first argument specifies what tag to use (e.g. “see”), the second argument is a comma-separated list of labels. The final argument (the location) is ignored.

```

\newrobustcmd*{\glsseeformat}[3][\seename]{%
  \emph{#1} \glsseelist{#2}}

```

`\glsseelist` `\glsseelist{<list>}` formats list of entry labels.

```

\newrobustcmd*{\glsseelist}[1]{%

```

If there is only one item in the list, set the last separator to do nothing.

```

  \let\@gls@dolast\relax

```

Don’t display separator on the first iteration of the loop

```

  \let\@gls@donext\relax

```

Iterate through the labels

```

  \@for\@gls@thislabel:=#1\do{%

```

Check if on last iteration of loop

```

    \ifx\@xfor@nextelement\@nnil
      \@gls@dolast
    \else
      \@gls@donext
    \fi

```

Display the entry for this label. (Expanding label as it’s a temporary control sequence that’s used elsewhere.)

```

    \expandafter\glsseeitem\expandafter{\@gls@thislabel}%

```

Update separators

```

    \let\@gls@dolast\glsseelastsep
    \let\@gls@donext\glsseesep
  }%
}

```

`\glsseelastsep` Separator to use between penultimate and ultimate entries in a cross-referencing list.

```

\newcommand*{\glsseelastsep}{\space\andname\space}

```

`\glsseesep` Separator to use between entries in a cross-referencing list.

```

\newcommand*{\glsseesep}{, }

```

`\glsseeitem` `\glsseeitem{<label>}` formats individual entry in a cross-referencing list.

```

\newrobustcmd*{\glsseeitem}[1]{\gls hyperlink[\glsseeitemformat{#1}]{#1}}

```

`\glsseeitemformat` Introduced in v3.0 to replace use of `\glsentryname` (originally in `\glsseeitem`) with `\glsentrytext` to avoid problems with the name key being sanitized. This ceased being a problem in v3.08a, but `\glsentrytext` was retained for backward-compatibility. As from v4.50, the default has reverted back to using `\glsentryname` unless the entry is an acronym (which could have a potentially long name).

```

\newcommand*{\glsseeitemformat}[1]{%
  \ifglshasshort{#1}{\glsentrytext{#1}}{\glsentryname{#1}}%
}

```

2.16 Displaying the glossary

An individual glossary is displayed in the text using `\printglossary[⟨key-val list⟩]`. If the `type` key is omitted, the default glossary is displayed. The optional argument can be used to specify an alternative glossary, and can also be used to set the style, title and entry in the table of contents. Available keys are defined below.

`\gls@save@numberlist` Provide command to store number list.

```
\newcommand*{\gls@save@numberlist}[1]{%
  \ifglssavenumberlist
    \toks@{#1}%

    \protected@edef\@do@writeaux@info{%
      \noexpand\csgdef{glo@\gls@currententrylabel @numberlist}{\the\toks@}%
    }%
    \@onelevel@sanitize\@do@writeaux@info
    \protected@write\@auxout{}{\@do@writeaux@info}%
  \fi
}
```

`\warn@noprintglossary` Warn the user if they have forgotten `\printglossaries` or `\printglossary`. (Will be suppressed if there is at least one occurrence of `\printglossary`. There is no check to ensure that there is a `\printglossary` for each defined glossary.)

```
\newcommand*{\warn@noprintglossary}{}%
```

`\printglossary` The TOC title needs to be processed in a different manner to the main title in case the translator and hyperref packages are both being used.

```
\ifcsundef{printglossary}{}%
{%
```

If `\printglossary` is already defined, issue a warning and undefine it.

```
\gls@warnonglossdefined
\undef\printglossary
}
```

Neither `\printglossary` nor `\printnoidxglossary` can work with an ignored glossary (since ignored glossaries normally suppress indexing and there's no associated file for `makeindex/xindy` to process). However `\printunsrtglossary` can be used with an ignored glossary, so provide a command to warn if the glossary doesn't exist or is an ignored glossary.

`gloss@checkexists@noignored`

```
\newcommand*{\@printgloss@checkexists@noignored}[2]{%
  \@ifglossaryexists{#1}%
  {#2}%
  {%
    \ifignoredglossary{#1}%
    {\GlossariesWarning{Glossary '#1' is an ignored glossary}}%
  }
```



```

        {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
    }%
}

```

`ss@checkexists@allowignored` For use with `\printunsrtglossary`.

```

\newcommand*{\@printgloss@checkexists@allowignored}[2]{%
  \s@ifglossaryexists{#1}%
  {#2}%
  {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
}

```

`\@printgloss@checkexists`

```

\let\@printgloss@checkexists\@printgloss@checkexists@noignored

```

`\printglossary` has an optional argument. The default value is to set the glossary type to the main glossary.

```

\newcommand*{\printglossary}[1][type=glndefaulttype]{%
  \let\@printgloss@checkexists\@printgloss@checkexists@noignored
  \@printglossary{#1}{\@print@glossary}%
}

```

The `\printglossaries` command will do `\printglossary` for each glossary type that has been defined. It is better to use `\printglossaries` rather than individual `\printglossary` commands to ensure that you don’t forget any new glossaries you may have created. It also makes it easier to chop and change the value of the acronym package option. However, if you want to list the glossaries in a different order, or if you want to set the title or table of contents entry, or if you want to use different glossary styles for each glossary, you will need to use `\printglossary` explicitly for each glossary type.

`\printglossaries`

```

\newcommand*{\printglossaries}{%
  \forallglossaries{\@glo@type}{\printglossary[type=\@glo@type]}%
}

```

`\printnoidxglossary` Provide an alternative to `\printglossary` that doesn’t require an external indexing application.

```

\newcommand*{\printnoidxglossary}[1][type=glndefaulttype]{%
  \let\@printgloss@checkexists\@printgloss@checkexists@noignored
  \@printglossary{#1}{\@print@noidx@glossary}%
}

```

`\printnoidxglossaries` Analogous to `\printglossaries`

```

\newcommand*{\printnoidxglossaries}{%
  \forallglossaries{\@glo@type}{\printnoidxglossary[type=\@glo@type]}%
}

```

`\@printgloss@setsort` Initialise to do nothing.

```

\newcommand*{\@printgloss@setsort}{}

```

`\@gls@preglossaryhook`

```
\newcommand*{\@gls@preglossaryhook}{}
```

`\@printglossary` Sets up the glossary for either `\printglossary` or `\printnoidxglossary`. The first argument is the options list, the second argument is the handler macro that deals with the actual glossary. This is also used by `glossaries-extra`'s `\printunsrtglossary` which may be used with an ignored glossary.

```
\newcommand{\@printglossary}[2]{%
```

Set up defaults.

```
\def\@glo@type{\glsdefaulttype}%
```

```
\def\glossarytitle{\csname @glo@type @title\endcsname}%
```

```
\def\glossarytoctitle{\glossarytitle}%
```

```
\let\org@glossarytitle\glossarytitle
```

```
\def\@glossarystyle{%
```

```
\ifx@glossary@default@style\relax
```

```
\GlossariesWarning{No default glossary style provided \MessageBreak  
for the glossary '@glo@type'. \MessageBreak
```

```
Using fallback. \MessageBreak
```

```
To fix this set the style with \MessageBreak
```

```
\string\setglossarystyle\space or use the \MessageBreak
```

```
style key=value option}%
```

```
\fi
```

```
}%
```

```
\def\gls@dotoc@title{\glssettoctitle{\@glo@type}}%
```

Store current value of `\glossaryentrynumbers`. (This may be changed via the optional argument)

```
\let\@org@glossaryentrynumbers\glossaryentrynumbers
```

Localise the effects of the optional argument

```
\gls@printglossary@begin
```

Activate or deactivate sort key:

```
\@printgloss@setsort
```

Determine settings specified in the optional argument.

```
\setkeys{printgloss}{#1}%
```

Does the glossary exist?

```
\@printgloss@checkexists{\@glo@type}%
```

```
{%
```

If title has been set, but toctitle hasn't, make toctitle the same as given title (rather than the title used when the glossary was defined)

```
\ifx\glossarytitle\org@glossarytitle
```

```
\else
```

```
\expandafter\let\csname @glo@type @title\endcsname
```

```
\glossarytitle
```

```
\fi
```

Allow a high-level user command to indicate the current glossary

```
\let\currentglossary\@glo@type
```

Enable individual number lists to be suppressed.

```
\let\org@glossaryentrynumbers@glossaryentrynumbers
\let\glsnonextpages@glsnonextpages
```

Enable individual number list to be activated:

```
\let\glsnextpages@glsnextpages
```

Enable suppression of description terminators.

```
\let\nopostdesc@\nopostdesc
```

Set up the entry for the TOC

```
\gls@dotoc@title
```

Set the glossary style

```
\@glossarystyle
```

Added a way to fetch the current entry label (v3.08 updated for new `\glossentry` and `\subglossentry`, but this is now only needed for backward compatibility):

```
\let\gls@org@glossaryentryfield@glossentry
\let\gls@org@glossarysubentryfield@subglossentry
\renewcommand{\glossentry}[1]{%
  \protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
  \gls@org@glossaryentryfield{##1}%
}%
\renewcommand{\subglossentry}[2]{%
  \protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
  \gls@org@glossarysubentryfield{##1}{##2}%
}%
```

```
\@gls@preglossaryhook
```

Now do the handler macro that deals with the actual glossary:

```
#2%
}%
```

End the current scope

```
\gls@printglossary@end
```

Reset `\glossaryentrynumbers`

```
\global\let@glossaryentrynumbers@org@glossaryentrynumbers
```

Suppress warning about no `\printglossary`

```
\global\let@warn@noprintglossary@relax
}
```

```
\gls@printglossary@begin
```

```
\newcommand{\gls@printglossary@begin}{\begingroup}
```

`\gls@printglossary@end` See <https://github.com/latex3/tagging-project/issues/48>

```
\newcommand{\gls@printglossary@end}{%
\expandafter\endgroup\if@endpe\doendpe\fi
}
```

`\@print@glossary` Internal workings of `\printglossary` dealing with reading the external file.

```
\newcommand{\@print@glossary}{%
```

Some macros may end up being expanded into internals in the glossary, so need to make `@` a letter. (Unlikely to be a problem since v3.08a but kept for backward compatibility.)

```
\makeatletter
```

Input the glossary file, if it exists.

```
\input@{\jobname.\csname @glo@type@\glo@type @in\endcsname}%
```

If the glossary file doesn't exist, do `\null`. (This ensures that the page is shipped out and all write commands are done.) This might produce an empty page, but at this point the document isn't complete, so it shouldn't matter.

```
\IfFileExists{\jobname.\csname @glo@type@\glo@type @in\endcsname}%
{}%
{\null}%
```

If `xindy` is being used, need to write the language dependent information to the `.aux` file for `makeglossaries`.

```
\ifglsxindy
```

Set `\@gls@langmod`:

```
\gls@xdy@set@lang{\glo@type}%
\edef\@do@auxoutstuff{%
\noexpand\AtEndDocument{%
```

If the user removes the glossary package from their document, ensure the next run doesn't throw a load of undefined control sequence errors when the aux file is parsed.

```
\noexpand\immediate\noexpand\write\@auxout{%
\string\providecommand\string\@xdylanguage[2]{}%
\noexpand\immediate\noexpand\write\@auxout{%
\string\@xdylanguage{\glo@type}{\@gls@langmod}}%
}%
}%
\@do@auxoutstuff
\edef\@do@auxoutstuff{%
\noexpand\AtEndDocument{%
```

If the user removes the glossaries package from their document, ensure the next run doesn't throw a load of undefined control sequence errors when the aux file is parsed.

```
\noexpand\immediate\noexpand\write\@auxout{%
\string\providecommand\string\@gls@codepage[2]{}%
\noexpand\immediate\noexpand\write\@auxout{%
```

```

        \string\@gls@codepage{\@glo@type}{\gls@codepage}}%
    }%
}
\do@auxoutstuff
\fi

```

Activate warning if `\makeglossaries` hasn't been used.

```

\renewcommand*{\@warn@nomakeglossaries}{%
  \GlossariesWarningNoLine{\string\makeglossaries\space
    hasn't been used,^^Jthe glossaries will not be updated}%
}%
}

```

The sort macros all have the syntax:

```
\@glo@sortmacro@<order>{<type>}
```

where `<order>` is the sort order as specified by the sort key and `<type>` is the glossary type. (The referenced entry list is stored in `\@glsref@<type>`). The actual sorting is done by `\@glo@sortentries{<handler>}{<type>}`.

New to v4.55: Check if `datatool-base v3.0+` is installed, which provides the command `\datatool_sortwordseq:NN`

```

\ExplSyntaxOn
\cs_if_exist:NTF \datatool_sortwordseq:NN
{

```

Sequence variable in which to store entries that need sorting.

```

  \seq_new:N \l__glossaries_sort_seq
  \prop_new:N \l__glossaries_sort_prop
  \tl_new:N \l__glossaries_sort_value_tl

```

Set the sequence from the glossary list.

```

  \cs_new:Nn \__glossaries_set_sort_seq:n
  {
    \seq_clear:N \l__glossaries_sort_seq
    \prop_clear:N \l__glossaries_sort_prop
    \forlistcsloop
      \__glossaries_add_sort_item:n
      { @glsref@ #1 }
  }

```

Add label to the sequence if not already added.

```

  \cs_new:Nn \__glossaries_add_sort_item:n
  {
    \seq_if_in:NnF \l__glossaries_sort_seq { #1 }
    {
      \ifglshasparent { #1 }
      {

```

If this entry has a parent, ensure that the parent is also added. This uses recursion to ensure that all ancestors are added.

```

\exp_args:Nv \__glossaries_add_sort_item:n
{ glo@ #1 @parent }

```

The parent's hierarchical sort value should now be stored in the property list.

```

\prop_get:NvN \l__glossaries_sort_prop
{ glo@ #1 @parent }
\l__glossaries_sort_value_tl
\quark_if_no_value:NTF
\l__glossaries_sort_value_tl
{

```

Shouldn't happen, but if it does then assume no parent.

```

\tl_clear:N \l__glossaries_sort_value_tl
}
{

```

Append marker to ensure that child entries are placed immediately after parent entry.

```

\tl_put_right:Nn \l__glossaries_sort_value_tl
{ \datatoolctrlboundary \datatoolasciistart }
}
{

```

No parent, so no hierarchical sort prefix.

```

\tl_clear:N \l__glossaries_sort_value_tl
}

```

Append the entry's sort value to ensure hierarchy preserved, if applicable.

```

\tl_put_right:Nv \l__glossaries_sort_value_tl
{ glo@ #1 @sort }

```

Add the hierarchical sort value to the property list.

```

\prop_put:NnV \l__glossaries_sort_prop { #1 }
\l__glossaries_sort_value_tl

```

Add this entry's label to the sequence.

```

\seq_put_right:Nn \l__glossaries_sort_seq { #1 }
}
}

```

Available sort methods. Word sort:

```

\cs_new:Nn \__glossaries_sort_word:n
{
  \__glossaries_do_sort:Nn
  \__glossaries_sort_word_hander:nN
  { #1 }
}
\cs_new:Nn \__glossaries_sort_word_hander:nN
{
  \prop_get:NnN \l__glossaries_sort_prop { #1 }
  \l__glossaries_sort_value_tl
  \exp_args:NV \DTLsortwordhandler

```

```

    \l__glossaries_sort_value_tl #2
  }

```

Letter sort:

```

\cs_new:Nn \__glossaries_sort_letter:n
{
  \__glossaries_do_sort:Nn
  \__glossaries_sort_letter_handler:nN
  { #1 }
}
\cs_new:Nn \__glossaries_sort_letter_handler:nN
{
  \prop_get:NnN \l__glossaries_sort_prop { #1 }
  \l__glossaries_sort_value_tl
  \exp_args:NV \DTLsortletterhandler
  \l__glossaries_sort_value_tl #2
}

```

Case-sensitive.

```

\cs_new:Nn \__glossaries_sort_case:n
{
  \__glossaries_do_sort:Nn
  \__glossaries_sort_case_handler:nN
  { #1 }
}

```

Closest match for original case-sensitive sorting. This omits the localisation support.

```

\cs_new:Nn \__glossaries_sort_case_handler:nN
{
  \prop_get:NnN \l__glossaries_sort_prop { #1 }
  \l__glossaries_sort_value_tl
  \exp_args:NV \DTLsortwordcasehandler
  \l__glossaries_sort_value_tl #2
  \datatool_sort_handler_preprocess:Nn
  #2 { \text_lowercase:n { \l__glossaries_sort_value_tl } }
  \tl_set:Nx #2 { \text_purify:n { #2 } \datatoolctrlboundary }
}

```

Case-insensitive.

```

\cs_new:Nn \__glossaries_sort_nocase:n
{
  \__glossaries_do_sort:Nn
  \__glossaries_sort_nocase_handler:nN
  { #1 }
}

```

Closest match for original case-insensitive sorting. This omits the localisation support.

```

\cs_new:Nn \__glossaries_sort_nocase_handler:nN
{
  \prop_get:NnN \l__glossaries_sort_prop { #1 }
}

```

```

    \l__glossaries_sort_value_tl
\exp_args:NV \DTLsortwordcasehandler
    \l__glossaries_sort_value_tl #2
\datatool_sort_handler_preprocess:Nn
    #2 { \l__glossaries_sort_value_tl }
\l_set:Nx #2 { \text_purify:n { #2 } \datatoolctrlboundary }
}

```

Syntax: $\langle handler-cs \rangle \{ \langle type \rangle \}$

```

\cs_new:Nn \__glossaries_do_sort:Nn
{
  \renewcommand \dtlnonlettergroup [ 1 ] { glssymbols }
  \renewcommand \dtlnumbergroup [ 1 ] { glsnumbers }
  \__glossaries_set_sort_seq:n { #2 }
  \datatool_sortwordseq:NN
    \l__glossaries_sort_seq
    #1
  \tl_clear:c { @glsref@ #2 }
  \seq_map_inline:Nn \l__glossaries_sort_seq
    {
      \listcseadd { @glsref@ #2 } { ##1 }
      \tl_set:cn { glo@ ##1 @sort } { ##1 }
    }
}

```

Fetch the letter group from the sort value:

```

\cs_new:Npn \@gls@fetch@lettergrp
{
  \tl_if_head_eq_meaning:VNTF \@gls@sort \__datatool_sorted:nnn
  {
    \tl_set:Nx \@glo@thislettergrp
      { \exp_args:NV \DTLsortedletter \@gls@sort }
  }
  {
    \exp_args:NVV \DTLassignlettergroup \@gls@sort \@gls@sort
      \@glo@thislettergrp
  }
}
}
{

```

Old version of datatool-base, so use old method.

```

\cs_new:Nn \__glossaries_sort_word:n
{
  \@glo@sortentries{\@glo@sorthandler@word}{#1}
}
\cs_new:Nn \__glossaries_sort_letter:n
{
  \@glo@sortentries{\@glo@sorthandler@letter}{#1}
}
\cs_new:Nn \__glossaries_sort_case:n

```



```

    {
      \glo@sortentries{\glo@sorthandler@case}{#1}
    }
  \cs_new:Nn \__glossaries_sort_nocase:n
  {
    \glo@sortentries{\glo@sorthandler@nocase}{#1}
  }
  \cs_new:Npn \@gls@fetch@lettergrp
  {
    \expandafter\glo@grabfirst\@gls@sort{}{}\@nil
  }
}

```

Provide command that can be used once L3 syntax switched off to ease conversion. (I don't currently have time to rewrite the entire package.)

```

\cs_new:Npn \@@glo@sortentries #1 #2
{
  \cs_if_exist:cTF { __glossaries_sort_ #1 :n }
  {
    \use:c { __glossaries_sort_ #1 :n } { #2 }
  }
  {
    \PackageError { glossaries }
      { Unknown ~ sort ~ method ~ '#1' } { }
  }
}
\ExplSyntaxOff

```

```

\@glo@sortentries Syntax: \handler-cs{<type>}
\newcommand*{\@glo@sortentries}[2]{%
  \glosortentrieswarning
  \def\@glo@sortinglist{}%
  \def\@glo@sortinghandler{#1}%

  \protected@edef\@glo@type{#2}%
  \forlistcsloop{\@glo@do@sortentries}{@glsref@#2}%
  \csdef{@glsref@#2}{}%
  \for\@this@label:=\@glo@sortinglist\do{%

```

Has this entry already been added?

```

  \xifinlistcs{\@this@label}{@glsref@#2}%
  }%
  {%
    \listcsxadd{@glsref@#2}{\@this@label}%
  }%
  \ifcsdef{@glo@sortingchildren@\@this@label}%
  {%
    \@glo@addchildren{#2}{\@this@label}%
  }%
  }%
}

```

```
}%
}
```

```
\@glo@addchildren{<type>}{<parent>}
```

\@glo@addchildren

```
\newcommand*{\@glo@addchildren}[2]{%
```

Scope to allow nesting.

```
\bgroup
\letcs{\@glo@childlist}{@glo@sortingchildren@#2}%
\@for\@this@childlabel:=\@glo@childlist\do
{%
```

Check this label hasn't already been added.

```
\xifinlistcs{\@this@childlabel}{@glsref@#1}%
{)%
{)%
\listcsxadd{@glsref@#1}{\@this@childlabel}%
}%
```

Does this child have children?

```
\ifcsdef{@glo@sortingchildren@\@this@childlabel}%
{)%
\@glo@addchildren{#1}{\@this@childlabel}%
}%
{)%
}%
}%
```

```
\egroup
```

```
}
```

\@glo@do@sortentries

```
\newcommand*{\@glo@do@sortentries}[1]{%
\ifglshasparent{#1}%
{%
```

This entry has a parent, so add it to the child list

```
\protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{#1}@parent}}%
\ifcsundef{@glo@sortingchildren@\@glo@parent}%
{)%
\csdef{@glo@sortingchildren@\@glo@parent}{}%
}%
{)%
\expandafter\@glo@sortedinsert
\csname @glo@sortingchildren@\@glo@parent\endcsname{#1}%
```

Has the parent been added?

```
\xifinlistcs{\@glo@parent}{@glsref@\@glo@type}%
{%
```

Yes, it has so do nothing.

```
}%  
{%
```

No, it hasn't so add it now.

```
\expandafter\@glo@do@sortentries\expandafter{\@glo@parent}%  
}%  
}%  
{%  
\@glo@sortedinsert{\@glo@sortinglist}{#1}%  
}%  
}
```

```
\@glo@sortedinsert{<list>}{<entry label>}
```

\@glo@sortedinsert

Insert into list.

```
\newcommand*\@glo@sortedinsert}[2]{%  
\dtl@insertinto{#2}{#1}{\@glo@sortinghandler}%  
}%
```

The sort handlers need to be in the form required by datatool's `\dtl@sortlist` macro. These must set the count register `\dtl@sortresult` to either -1 ($\#1$ less than $\#2$), 0 ($\#1 = \#2$) or $+1$ ($\#1$ greater than $\#2$).

\@glo@sorthandler@word

```
\newcommand*\@glo@sorthandler@word}[2]{%  
\letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%  
\letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%  
\edef\@glo@do@compare{%  
\noexpand\dtlwordindexcompare{\noexpand\dtl@sortresult}%  
{\expandonce\@gls@sort@B}%  
{\expandonce\@gls@sort@A}%  
}%  
\@glo@do@compare  
}
```

\@glo@sorthandler@letter

```
\newcommand*\@glo@sorthandler@letter}[2]{%  
\letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%  
\letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%  
\edef\@glo@do@compare{%  
\noexpand\dtlletterindexcompare{\noexpand\dtl@sortresult}%  
{\expandonce\@gls@sort@B}%  
{\expandonce\@gls@sort@A}%  
}%  
\@glo@do@compare  
}
```

`\@glo@sorthandler@case` Case-sensitive sort.

```
\newcommand*\@glo@sorthandler@case}[2]{%
  \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
  \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
  \edef\glo@do@compare{%
    \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
    {\expandonce\@gls@sort@B}%
    {\expandonce\@gls@sort@A}%
  }%
  \glo@do@compare
}
```

`\@glo@sorthandler@nocase` Case-insensitive sort.

```
\newcommand*\@glo@sorthandler@nocase}[2]{%
  \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
  \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
  \edef\glo@do@compare{%
    \noexpand\dtlicompare{\noexpand\dtl@sortresult}%
    {\expandonce\@gls@sort@B}%
    {\expandonce\@gls@sort@A}%
  }%
  \glo@do@compare
}
```

`\@glo@sortmacro@word` Sort macro for ‘word’

```
\newcommand*\@glo@sortmacro@word}[1]{%
  \ifdefstring{\@glo@default@sorttype}{standard}%
  {%
    \@glo@@sortentries{word}{#1}%
  }%
  {%
    \PackageError{glossaries}{Conflicting sort options:^^J
  \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
  \string\printnoidxglossary[sort=word]}{}}%
  }%
}
```

`\@glo@sortmacro@letter` Sort macro for ‘letter’

```
\newcommand*\@glo@sortmacro@letter}[1]{%
  \ifdefstring{\@glo@default@sorttype}{standard}%
  {%
    \@glo@@sortentries{letter}{#1}%
  }%
  {%
    \PackageError{glossaries}{Conflicting sort options:^^J
  \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
  \string\printnoidxglossary[sort=letter]}{}}%
  }%
}
```

`\@glo@sortmacro@standard` Sort macro for ‘standard’. (Use either ‘word’ or ‘letter’ order.)

```
\newcommand*\@glo@sortmacro@standard}[1]{%
  \ifdefstring{\@glo@default@sorttype}{standard}%
  {%
    \@glo@@sortentries{\glsorder}{#1}%
  }%
  {%
    \PackageError{glossaries}{Conflicting sort options:^^J
      \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
      \string\printnoidxglossary[sort=standard]}{}%
  }%
}
```

`\@glo@sortmacro@case` Sort macro for ‘case’

```
\newcommand*\@glo@sortmacro@case}[1]{%
  \ifdefstring{\@glo@default@sorttype}{standard}%
  {%
    \@glo@@sortentries{case}{#1}%
  }%
  {%
    \PackageError{glossaries}{Conflicting sort options:^^J
      \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
      \string\printnoidxglossary[sort=case]}{}%
  }%
}
```

`\@glo@sortmacro@nocase` Sort macro for ‘nocase’

```
\newcommand*\@glo@sortmacro@nocase}[1]{%
  \ifdefstring{\@glo@default@sorttype}{standard}%
  {%
    \@glo@@sortentries{nocase}{#1}%
  }%
  {%
    \PackageError{glossaries}{Conflicting sort options:^^J
      \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
      \string\printnoidxglossary[sort=nocase]}{}%
  }%
}
```

`\@glo@sortmacro@def` Sort macro for ‘def’. The order of definition is given in `\glo@list@{type}`.

```
\newcommand*\@glo@sortmacro@def}[1]{%
  \def\@glo@sortinglist{}%
  \for\glsentries[#1]{\@gls@thislabel}%
  {%
    \xifinlistcs{\@gls@thislabel}{\@glsref@#1}%
    {%
      \listead{\@glo@sortinglist}{\@gls@thislabel}%
    }%
  }%
}
```

Hasn't been referenced.

```
}%  
}%  
\cslet{@glsref@#1}{\@glo@sortinglist}%  
}
```

`\@glo@sortmacro@def@do` This won't include parent entries that haven't been referenced.

```
\newcommand*{\@glo@sortmacro@def@do}[1]{%  
  \ifinlistcs{#1}{@glsref@\@glo@type}%  
  }%  
  {%  
    \listcsadd{@glsref@\@glo@type}{#1}%  
  }%  
  \ifcsdef{@glo@sortingchildren@#1}%  
  {%  
    \@glo@addchildren{\@glo@type}{#1}%  
  }%  
  }%  
}
```

`\@glo@sortmacro@use` Sort macro for 'use'. (No sorting is required, as the entries are already in order of use, so do nothing.)

```
\newcommand*{\@glo@sortmacro@use}[1]{}
```

`\@print@noidx@glossary` Glossary handler for `\@print@noidx@glossary` which doesn't use an indexing application. Since `\@print@noidx@glossary` may occur at the start of the document, we can't just check if an entry has been used. Instead, the first pass needs to write information to the aux file every time an entry is referenced. This needs to be read in on the second run and stored in a list corresponding to the appropriate glossary.

```
\newcommand*{\@print@noidx@glossary}{%  
  \ifcsdef{@glsref@\@glo@type}%  
  {%
```

Sort the entries:

```
  \ifcsdef{@glo@sortmacro@\@glo@sorttype}%  
  {%  
    \csuse{@glo@sortmacro@\@glo@sorttype}{\@glo@type}%  
  }%  
  {%  
    \PackageError{glossaries}{Unknown sort handler '\@glo@sorttype'}{ }%  
  }%
```

Do the glossary heading and preamble

```
  \glossarysection[\glossarytoctitle]{\glossarytitle}%  
  \glossarypreamble
```

The glossary style might use a tabular-like environment, which may cause scoping problems when setting the current letter group. The predefined tabular-like styles don't support letter group headings, but there's nothing to stop the user

from defining their own custom style that might, so any redefinition of this command within theglossary will have to be done globally.

```

\def\@gls@currentlettergroup{}%
\begin{theglossary}%
\glossaryheader
\glsresetentrylist

```

Iterate through the entries.

```

\forlistcsloop{\@gls@noidx@do}{\@glsref@\@glo@type}%

```

Finally end the glossary and do the postamble:

```

\end{theglossary}%
\glossarypostamble
}%
{%
\@gls@noref@warn{\@glo@type}%
}%
}

```

\glo@grabfirst This won't work for UTF-8 and inputenc.

```

\def\glo@grabfirst#1#2\@nil{%
\def\@gls@firsttok{#1}%
\ifdefempty\@gls@firsttok
{%
\def\@glo@thislettergrp{0}%
}%
{%

```

Sanitize it:

```

\@onelevel@sanitize\@gls@firsttok

```

Fetch the first letter:

```

\expandafter\@glo@grabfirst\@gls@firsttok{}{}\@nil
}%
}

```

\@glo@grabfirst

```

\def\@glo@grabfirst#1#2\@nil{%
\ifdefempty\@glo@thislettergrp
{%
\def\@glo@thislettergrp{glssymbols}%
}%
{%
\count@=\uccode'#1\relax
\ifnum\count@=0\relax
\def\@glo@thislettergrp{glssymbols}%
\else
\ifdefstring\@glo@sorttype{case}%
{%
\count@='#1\relax
}%

```

```

    {%
    }%
    \edef\@glo@thislettergrp{\the\count0}%
  \fi
}%
}

```

`\@gls@noidx@do` Handler for list iteration used by `\@print@noidx@glossary`. The argument is the entry label. This only allows one sublevel.

```

  \newcommand{\@gls@noidx@do}[1]{%
  Get this entry's location list
  \global\letcs{\@gls@loclist}{glo@glstdetoklabel{#1}@loclist}%

```

Does this entry have a parent?

```

  \ifglshasparent{#1}%
  {%

```

Has a parent.

```

  \gls@level=\csuse{glo@glstdetoklabel{#1}@level}\relax
  \ifdefvoid{\@gls@loclist}
  {%
    \subglossentry{\gls@level}{#1}{%
  }%
  {%
    \subglossentry{\gls@level}{#1}%
  {%
    \glsnoidxprenumberlist{#1}%
    \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
  }%
  }%
  }%
  {%

```

Doesn't have a parent Get this entry's sort key

```

  \letcs{\@gls@sort}{glo@glstdetoklabel{#1}@sort}%

```

Get the letter group:

```

  \@gls@fetch@lettergrp
  \ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
  {}%
  {%

```

Do the group header:

```

  \ifdefempty{\@gls@currentlettergroup}{%
  {%

```

The group skip may start a new scope, so make a global assignment.

```

  \global\let\@glo@thislettergrp\@glo@thislettergrp
  \glsgroupskip
  }%
  \glsgroupheading{\@glo@thislettergrp}%
  }%

```



```
\global\let\@gls@currentlettergroup\@glo@thislettergrp
```

Do this entry:

```
\ifdefvoid{\@gls@loclist}
{%
  \glossentry{#1}{}%
}%
{%
  \glossentry{#1}%
  \glsnoidxprenumberlist{#1}%
  \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
}%
}%
}%
}
```

```
\glsnoidxloclist{<list cs>}
```

\glsnoidxloclist

Display location list.

```
\newcommand*\glsnoidxloclist[1]{%
  \def\@gls@noidxloclist@sep{}%
  \def\@gls@noidxloclist@prev{}%
  \forlistloop{\glsnoidxloclisthandler}{#1}%
}
```

\glsnoidxloclisthandler Handler for location list iterator.

```
\newcommand*\glsnoidxloclisthandler[1]{%
  \ifdefstring{\@gls@noidxloclist@prev}{#1}%
  {%
    Same as previous location so skip.
  }%
  {%
    \@gls@noidxloclist@sep
    #1%
    \def\@gls@noidxloclist@sep{\delimN}%
    \def\@gls@noidxloclist@prev{#1}%
  }%
}
```

\glsnoidxdisplayloclisthandler Handler for location list iterator when used with \glsdisplaynumberlist.

```
\newcommand*\glsnoidxdisplayloclisthandler[1]{%
  \ifdefstring{\@gls@noidxloclist@prev}{#1}%
  {%
    Same as previous location so skip.
  }%
  {%
```

```

\@gls@noidxloclist@sep
\@gls@noidxloclist@prev
\def\@gls@noidxloclist@prev{#1}%
}%
}

```

```

\glsnoidxdisplayloc{<prefix>}{<counter>}{<format>}
{<location>}

```

\glsnoidxdisplayloc

Display a location in the location list.

```

\newcommand*\glsnoidxdisplayloc[4]{%
\setentrycounter[#1]{#2}%
\csuse{#3}{#4}%
}

```

```

\@gls@reference{<type>}{<label>}{<loc>}

```

\@gls@reference

Identifies that a reference has been used (for use in the aux file). All entries must be defined in the preamble.

```

\newcommand*\@gls@reference}[3]{%

```

Add to label list

```

\glsdoifexistsorwarn{#2}%
{%
\ifcsundef{@glsref@#1}{\csgdef{@glsref@#1}{}}{%
\ifinlistcs{#2}{@glsref@#1}%
}{%
{\listcsgadd{@glsref@#1}{#2}}%
}

```

Add to location list

```

\ifcsundef{glo@glsdetoklabel{#2}@loclist}%
{\csgdef{glo@glsdetoklabel{#2}@loclist}{}}%
{%
{\listcsgadd{glo@glsdetoklabel{#2}@loclist}{#3}}%
}%
}

```

The keys that can be used in the optional argument to `\printglossary` or `\printnoidxglossary` are as follows: The `type` key sets the glossary type.

```

\define@key{printgloss}{type}{\def\@glo@type{#1}}

```

The `title` key sets the title used in the glossary section header. This overrides the title used in `\newglossary`.

```

\define@key{printgloss}{title}{%
\def\glossarytitle{#1}%
\let\gls@dotoc@title\relax
}

```

The `toctitle` sets the text used for the relevant entry in the table of contents.

```
\define@key{printgloss}{toctitle}{%
\def\glossarytoctitle{#1}%
\let\gls@dotoc\relax
}
```

The `style` key sets the glossary style (but only for the given glossary).

```
\define@key{printgloss}{style}{%
\ifcsundef{@glsstyle@#1}%
{%
\PackageError{glossaries}%
{Glossary style ‘#1’ undefined}{}%
}%
{%
\def@glossarystyle{\setglossarystyle{#1}}%
}%
}
```

The `numberedsection` key determines if this glossary should be in a numbered section.

```
\define@choicekey{printgloss}{numberedsection}%
[\gls@numberedsection@val\gls@numberedsection@nr]%
{false,nolabel,autolabel,nameref}[nolabel]%
{%
\ifcase\gls@numberedsection@nr\relax
\renewcommand*\@@glossarysecstar{*}%
\renewcommand*\@@glossaryseclabel{}%
\or
\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{}%
\or
\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{\label{\glsautoprefix\@glo@type}}%
\or
\renewcommand*\@@glossarysecstar{*}%
\renewcommand*\@@glossaryseclabel{%
\protected@edef\@currentlabelname{\glossarytoctitle}%
\label{\glsautoprefix\@glo@type}}%
\fi
}
```

The `nogroupskip` key determines whether or not there should be a vertical gap between glossary groups.

```
\define@choicekey{printgloss}{nogroupskip}{true,false}[true]{%
\csuse{glsnogroupskip#1}%
}
```

The `nopostdot` key has the same effect as the package option of the same name.

```
\define@choicekey{printgloss}{nopostdot}{true,false}[true]{%
\csuse{glsnopostdot#1}%
}
```

```
}
```

`\GlsEntryCounterLabelPrefix` Make it easier to redefine the label prefix.

```
\newcommand*{\GlsEntryCounterLabelPrefix}{glsentry-}
```

The conditionals have been moved inside the appropriate commands to make it easier for the user to redefine them in the preamble and selectively switch the counter display on and off. Previously the helper commands were redefined by the `entrycounter` option, which would counteract any earlier customisation.

The `entrycounter` key is the same as the package option but localised to the current glossary.

```
\define@choicekey{printgloss}{entrycounter}{true,false}[true]{%
  \csuse{glssentrycounter#1}%
  \@gls@define@glossaryentrycounter
}
```

The `subentrycounter` key is the same as the package option but localised to the current glossary. Note that this doesn't affect the parent/child counter attributes, which occurs if `subentrycounter` and `entrycounter` package options are set to true.

```
\define@choicekey{printgloss}{subentrycounter}{true,false}[true]{%
  \csuse{glssubentrycounter#1}%
  \@gls@define@glossarysubentrycounter
}
```

The `nonumberlist` key determines if this glossary should have a number list.

```
\define@boolkey{printgloss}[gls]{nonumberlist}[true]{%
\ifglsnonumberlist
  \def\glossaryentrynumbers##1{%
\else
  \def\glossaryentrynumbers##1{##1}%
\fi}
```

The `sort` key sets the glossary sort handler (`\printnoidxglossary` only).

```
\define@key{printgloss}{sort}{\@glo@assign@sortkey{#1}}
```

`\@glo@no@assign@sortkey` Issue error if used with `\printglossary`

```
\newcommand*{\@glo@no@assign@sortkey}[1]{%
  \PackageError{glossaries}{‘sort’ key not permitted with
  \string\printglossary}%
  {The ‘sort’ key may only be used with \string\printnoidxglossary}%
}
```

`\@@glo@assign@sortkey` For use with `\printnoidxglossary`

```
\newcommand*{\@@glo@assign@sortkey}[1]{%
  \def\@glo@sorttype{#1}%
}
```

`\@glsnonextpages` Suppresses the next number list only. Global assignments required as it may not occur in the same level of grouping as the next numberlist. (For example, if `\glsnonextpages` is place in the entry's description and 3 column tabular style glossary is used.) `\org@glossaryentrynumbers` needs to be set at the start of each glossary, in the event that `\glossaryentrynumber` is redefined.

```
\newcommand*\@glsnonextpages}{%
  \gdef\glossaryentrynumbers##1{%
    \glsresetentrylist
  }%
}
```

`\@glsnextpages` Activate the next number list only. Global assignments required as it may not occur in the same level of grouping as the next numberlist. (For example, if `\glsnextpages` is place in the entry's description and 3 column tabular style glossary is used.) `\org@glossaryentrynumbers` needs to be set at the start of each glossary, in the event that `\glossaryentrynumber` is redefined.

```
\newcommand*\@glsnextpages}{%
  \gdef\glossaryentrynumbers##1{%
    ##1\glsresetentrylist}}
}
```

`\glsresetentrylist` Resets `\glossaryentrynumbers`

```
\newcommand*\glsresetentrylist}{%
  \global\let\glossaryentrynumbers\org@glossaryentrynumbers}
```

`\glsnonextpages` Outside of `\printglossary` this does nothing.

```
\newcommand*\glsnonextpages}{}
```

`\glsnextpages` Outside of `\printglossary` this does nothing.

```
\newcommand*\glsnextpages}{}
```

Process `entrycounter` and then `subentrycounter` options (this ensures the sub-counter can pick up the main counter as the master if required):

```
\@gls@define@glossaryentrycounter
\@gls@define@glossarysubentrycounter
```

`\glsresetsubentrycounter` Resets the `glossarysubentry` counter.

```
\newcommand*\glsresetsubentrycounter}{%
  \ifglssubentrycounter
    \setcounter{glossarysubentry}{0}%
  \fi
}
```

`\glsresetentrycounter` Resets the `glossaryentry` counter.

```
\newcommand*\glsresetentrycounter}{%
  \ifglsentrycounter
    \setcounter{glossaryentry}{0}%
  \fi
}
```

`\glsstepentry` Advance the glossaryentry counter if in use. The argument is the label associated with the entry.

```
\newcommand*\glsstepentry}[1]{%
  \ifglsentrycounter
    \refstepcounter{glossaryentry}%
    \label{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
  \fi
}
```

`\glsstepsubentry` Advance the glossarysubentry counter if in use. The argument is the label associated with the subentry.

```
\newcommand*\glsstepsubentry}[1]{%
  \ifglssubentrycounter

    \protected@edef\currentglssubentry{\glsdetoklabel{#1}}%
    \refstepcounter{glossarysubentry}%
    \label{\GlsEntryCounterLabelPrefix\currentglssubentry}%
  \fi
}
```

`\glsrefentry` Reference the entry or sub-entry counter if in use, otherwise just do `\gls`.

```
\newcommand*\glsrefentry}[1]{%
  \ifglsentrycounter
    \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
  \else
    \ifglssubentrycounter
      \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
    \else
      \gls{#1}%
    \fi
  \fi
}
```

`\glsentrycounterlabel` Defines how to display the glossaryentry counter.

```
\newcommand*\glsentrycounterlabel}{%
  \ifglsentrycounter
    \theglossaryentry.\space
  \fi
}
```

`\glssubentrycounterlabel` Defines how to display the glossarysubentry counter.

```
\newcommand*\glssubentrycounterlabel}{%
  \ifglssubentrycounter
    \theglossarysubentry)\space
  \fi
}
```

`\glsentryitem` Step and display glossaryentry counter, if appropriate.

```
\newcommand*\glsentryitem}[1]{%
```

```

\ifglstepentrycounter
\glstepentry{#1}\glstepentrycounterlabel
\else
\glresetsubentrycounter
\fi
}

```

`\glssubentryitem` Step and display glossarysubentry counter, if appropriate.

```

\newcommand*{\glssubentryitem}[1]{%
\ifglssubentrycounter
\glstepsentry{#1}\glssubentrycounterlabel
\fi
}

```

`theglossary` (*env.*) If the `theglossary` environment has already been defined, a warning will be issued. This environment should be redefined by glossary styles.

```

\ifcsundef{theglossary}%
{%
\newenvironment{theglossary}{}{}%
}%
{%
\@gls@warnontheglossdefined
\renewenvironment{theglossary}{}{}%
}

```

The glossary header is given by `\glossaryheader`. This forms part of the glossary style, and must indicate what should appear immediately after the start of the `theglossary` environment. (For example, if the glossary uses a tabular-like environment, it may be used to set the header row.) Note that if you don't want a header row, the glossary style must redefine `\glossaryheader` to do nothing.

```

\glossaryheader
\newcommand*{\glossaryheader}{}

```

`\glstarget`

```
\glstarget{<label>}{<name>}
```

Provide user interface to `\@glstarget` to make it easier to modify the glossary style in the document.

```
\newcommand*{\glstarget}[2]{\@glstarget{\glolinkprefix#1}{#2}}
```

As from version 3.08, glossary information is now written to the external files using `\glossentry` and `\subglossentry` instead of `\glossaryentryfield` and `\glossarysubentryfield`. The default definition provides backward compatibility for glossary styles that use the old forms.

```
\compatibleglossentry{<label>}{<page-list>}
```

`\compatibleglossentry`

Removed in v4.50.

```
\glossentry{<label>}{<page-list>}
```

\glossentry

```
\newcommand{\glossentry}[2]{\glossentryname{#1} #2}
```

\glossentryname

```
\newcommand*{\glossentryname}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \letcs{\glo@name}{glo@glstetoklabel{#1}@name}%
    \expandafter\glsnamefont\expandafter{\glo@name}%
  }%
}
```

\Glossentryname

```
\newcommand*{\Glossentryname}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glsnamefont{\Glsentryname{#1}}%
  }%
}
\glsmfuaddmap{\glossentryname}{\Glossentryname}
```

\glossentrydesc

```
\newcommand*{\glossentrydesc}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glsentrydesc{#1}%
  }%
}
```

\Glossentrydesc

```
\newcommand*{\Glossentrydesc}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \Glsentrydesc{#1}%
  }%
}
\glsmfuaddmap{\glossentrydesc}{\Glossentrydesc}
```

\glossentrysymbol

```
\newcommand*{\glossentrysymbol}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glsentrysymbol{#1}%
  }%
}
```


`\Glossentrysymbol`

```
\newcommand*\Glossentrysymbol[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \Glsentrysymbol{#1}%
  }%
}
\glsmfuaddmap{\glossentrysymbol}{\Glossentrysymbol}
```

`\compatiblesubglossentry{<level>}{<label>}{<page-list>}`

`\compatiblesubglossentry`

Removed in v4.50

`\setglossentrycompatibility`

`\glossaryentryfield{<label>}{<name>}{<description>}
{<symbol>}{<page-list>}`

`\glossaryentryfield`

This command formerly governed how each entry row should be formatted in the glossary. Now deprecated. Removed in v4.50

`\glossarysubentryfield{<level>}{<label>}{<name>}
{<description>}{<symbol>}{<page-list>}`

`\glossarysubentryfield`

This command governs how each subentry should be formatted in the glossary. Glossary styles need to redefine this command. Most of the predefined styles ignore `<symbol>`. The first argument is a number indicating the level. (The level should be greater than or equal to 1.)

Removed in v4.50.

`\subglossentry{<level>}{<label>}{<page-list>}`

`\subglossentry`

```
\newcommand{\subglossentry}[3]{\glossentryname{#2} #3}
```

Within each glossary, the entries form distinct groups which are determined by the first character of the sort key. When using `makeindex`, there will be a maximum of 28 groups: symbols, numbers, and the 26 alphabetical groups A, ..., Z. If you use `xindy` the groups will depend on whatever alphabet is used. This is determined by the language or custom alphabets can be created in the `xindy` style file. The command `\glsgroupskip` specifies what to do between glossary groups. Glossary styles must redefine this command. (Note

that `\glsgroupskip` only occurs between groups, not at the start or end of the glossary.)

`\glsgroupskip`

```
\newcommand*\glsgroupskip{}
```

Each of the 28 glossary groups described above is preceded by a group heading. This is formatted by the command `\glsgroupheading` which takes one argument which is the *label* assigned to that group (not the title). The corresponding labels are: `glsymbols`, `glsnumbers`, `A`, ..., `Z`. Glossary styles must redefine this command. (In between groups, `\glsgroupheading` comes immediately after `\glsgroupskip`.)

`\glsgroupheading`

```
\newcommand*\glsgroupheading[1]{}
```

It is possible to “trick” `makeindex` into treating entries as though they belong to the same group, even if the terms don’t start with the same letter, by modifying the sort key. For example, all entries belonging to one group could be defined so that the sort key starts with an `a`, while entries belonging to another group could be defined so that the sort key starts with a `b`, and so on. If you want each group to have a heading, you would then need to modify the translation control sequences `\glsgetgrouptitle` and `\glsgetgrouplabel` so that the label is translated into the required title (and vice-versa).

```
\glsgetgrouptitle{<label>}
```

This command produces the title for the glossary group whose label is given by `<label>`. By default, the group labelled `glsymbols` produces `\glsymbolsgroupname`, the group labelled `glsnumbers` produces `\glsnumbersgroupname` and all the other groups simply produce their label. As mentioned above, the group labels are: `glsymbols`, `glsnumbers`, `A`, ..., `Z`. If you want to redefine the group titles, you will need to redefine this command. Languages other than English may produce labels that are non-expandable, so we need to check for that otherwise it will create a “missing `\endcsname` inserted” error.

`\glsgetgrouptitle`

```
\newrobustcmd*\glsgetgrouptitle[1]{%
  \@gls@getgrouptitle{#1}{\@gls@grptitle}%
  \@gls@grptitle
}
```

`\@gls@getgrouptitle` Gets the group title specified by the label (first argument) and stores in the second argument, which must be a control sequence.

```
\ExplSyntaxOn
\newcommand*\@gls@getgrouptitle[2]{%
```

Note that `\dtl@ifsingle` (provided by `datatool`) is being phased out.

```
\def#2{#1}%
\regex_match:nnT { ~\A(.|glsnumbers|glssymbols)\Z } { #1 }
{ \ifcsundef{#1groupname}{ }\letcs#2{#1groupname} }
}
\ExplSyntaxOff
```

`\@gls@noidx@getgrouptitle` Version for the no-indexing app option:

```
\newcommand*{\@gls@noidx@getgrouptitle}[2]{%
\DTLifint{#1}%
{\edef#2{\char#1\relax}}%
{%
\ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
}%
}
```

`\glsgetgrouplabel{title}`

This command does the reverse to the previous command. The argument is the group title, and it produces the group label. Note that if you redefine `\glsgetgrouptitle`, you will also need to redefine `\glsgetgrouplabel`.

`\glsgetgrouplabel` This only works for the symbol and number groups, so is best avoided and not documented. However, it has been converted to use L^AT_EX3 commands.

```
\ExplSyntaxOn
\newcommand*{\glsgetgrouplabel}[1]{%
\str_if_eq:eeTF {#1} { \glssymbolsgroupname }
{ glssymbols }
{
\str_if_eq:eeTF {#1} { \glsnumbersgroupname }
{ glsnumbers }
{ #1 }
}
}
\ExplSyntaxOff
```

The command `\setentrycounter` sets the entry's associated counter (required by `\glshypernumber` etc.) `\glslink` and `\glsadd` encode the `\glossary` argument so that the relevant counter is set prior to the formatting command.

`\setentrycounter` The prefix is an optional argument because this command originally only had one argument. The optional argument was added in v3.0.

```
\newcommand*{\setentrycounter}[2][ ]{%
\def\@glo@counterprefix{#1}%
\ifx\@glo@counterprefix\@empty
\def\@glo@counterprefix{.}%
\else
\def\@glo@counterprefix{.#1.}%
\fi
```

```
\def\glentrycounter{#2}%
}
```

The current glossary style can be set using `\setglossarystyle{<style>}`.

`\setglossarystyle`

```
\newcommand*\setglossarystyle[1]{%
  \ifcsundef{@glsstyle@#1}%
  {%
    \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
  }%
  {%
    \csname @glsstyle@#1\endcsname
  }%
  Set the default style if it’s not already set.
  \ifx\@glossary@default@style\relax
    \protected@edef\@glossary@default@style{#1}%
  \fi
}
```

`\glossarystyle` Deprecated in v3.08a. Removed in v4.50.

`\newglossarystyle` New glossary styles can be defined using:

```
\newglossarystyle{<name>}{<definition>}
```

The `<definition>` argument should redefine `theglossary`, `\glossaryheader`, `\glsgroupheading`, `\glossaryentryfield` and `\glsgroupskip` (see [subsection 2.19](#) for the definitions of predefined styles). Glossary styles should not redefine `\glossarypreamble` and `\glossarypostamble`, as the user should be able to switch between styles without affecting the pre- and postambles.

```
\newcommand{\newglossarystyle}[2]{%
  \ifcsundef{@glsstyle@#1}%
  {%
    \expandafter\def\csname @glsstyle@#1\endcsname{#2}%
  }%
  {%
    \PackageError{glossaries}{Glossary style ‘#1’ is already defined}{}%
  }%
}
```

`\renewglossarystyle` Code for this macro supplied by Marco Daniel.

```
\newcommand{\renewglossarystyle}[2]{%
  \ifcsundef{@glsstyle@#1}%
  {%
    \PackageError{glossaries}{Glossary style ‘#1’ isn’t already defined}{}%
  }%
  {%
  }
```

```

\csdef{@glsstyle@#1}{#2}%
}%
}

```

Glossary entries are encoded so that the second argument to `\glossaryentryfield` is always specified as `\glsnamefont{<name>}`. This allows the user to change the font used to display the name term without having to redefine `\glossaryentryfield`. The default uses the surrounding font, so in the list type styles (which place the name in the optional argument to `\item`) the name will appear in bold.

```

\glsnamefont
\newcommand*{\glsnamefont}[1]{#1}

```

Each glossary entry has an associated number list (usually page numbers) that indicate where in the document the entry has been used. The format for these number lists can be changed using the `format` key in commands like `\glslink`. The default format is given by `\glshypernumber`. This takes a single argument which may be a single number, a number range or a number list. The number ranges are delimited with `\delimR`, the number lists are delimited with `\delimN`.

If the document doesn't have hyperlinks, the numbers can be displayed just as they are, but if the document supports hyperlinks, the numbers should link to the relevant location. This means extracting the individual numbers from the list or ranges. The `hyperref` package does this with the `\hyperpage` command, but this is encoded for comma and dash delimiters and only for the page counter, but this code needs to be more general. So I have adapted the code used in the `hyperref` package.

```

\glshypernumber
\ifcsundef{hyperlink}%
{%
\def\glshypernumber#1{#1}%
}%
{%
\def\glshypernumber#1{\@xp@glshypernumber{#1}}
}

```

```

\@xp@glshypernumber
\newrobustcmd{\@xp@glshypernumber}[1]{%
\@glshypernumber#1\nohyperpage{ }\@nil
}

```

```

\@glshypernumber This code was provided by Heiko Oberdiek to allow material to be attached to
the location.
\def\@glshypernumber#1\nohyperpage#2#3\@nil{%
\ifx\#1\%
\else

```

```

\gls@delimR#1\delimR\delimR\}%
\fi
\ifx\#2\}%
\else
#2%
\fi
\ifx\#3\}%
\else
\@gls@hypernumber#3\@nil
\fi
}

```

`\gls@delimR` displays a range of numbers for the counter whose name is given by `\@gls@counter` (which must be set prior to using `\gls@hypernumber`).

```

\gls@delimR
\def\gls@delimR#1\delimR #2\delimR #3\}%
\ifx\#2\}%
\gls@delimN{#1}%
\else
\@gls@numberlink{#1}\delimR\@gls@numberlink{#2}%
\fi
}

```

`\gls@delimN` displays a list of individual numbers, instead of a range:

```

\gls@delimN
\def\gls@delimN#1{\gls@delimN#1\delimN \delimN\}%
\def\gls@delimN#1\delimN #2\delimN#3\}%
\ifx\#3\}%
\@gls@numberlink{#1}%
\else
\@gls@numberlink{#1}\delimN\@gls@numberlink{#2}%
\fi
}

```

The following code is modified from `hyperref`'s `\HyInd@pagelink` where the name of the counter being used is given by `\@gls@counter`.

```

\def\@gls@numberlink#1{%
\begingroup
\toks@={}%
\@gls@removespaces#1 \@nil
\endgroup
}
\def\@gls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\}%
\edef\@gls@x{\the\toks@}%
\ifx\@gls@x\empty
\else

```

`\bgroup`

Allow any markup to be stripped from the location when forming the target name.

```
\glswrglossdisableanchorcmds
\protected@edef\@gls@tmp{\glstentrycounter\@glo@counterprefix
\glswrglosslocationtarget{\@gls@x}}%
```

If anything hasn't been fully expanded by this point then it will cause a problem, so sanitize to prevent an error, but it's likely the target won't be valid.

```
\@onelevel@sanitize\@gls@tmp
\edef\@gls@x{\noexpand\egroup
\noexpand\hyperlink{\@gls@tmp}%
{noexpand\glswrglosslocationtextfmt{\the\toks@}}%
}%
\@gls@x
\fi
\else
\@gls@ReturnAfterFi{%
\@gls@removespaces#2\@nil
}%
\fi
}
\long\def\@gls@ReturnAfterFi#1\fi{\fi#1}
```

The following commands will switch to the appropriate font, and create a hyperlink, if hyperlinks are supported. If hyperlinks are not supported, they will just display their argument in the appropriate font.

```
\hyperrm
\newcommand*\hyperrm[1]{\textrm{\glshypernumber{#1}}}

\hypersf
\newcommand*\hypersf[1]{\textsf{\glshypernumber{#1}}}

\hypertt
\newcommand*\hypertt[1]{\texttt{\glshypernumber{#1}}}

\hyperbf
\newcommand*\hyperbf[1]{\textbf{\glshypernumber{#1}}}

\hypermd
\newcommand*\hypermd[1]{\textmd{\glshypernumber{#1}}}

\hyperit
\newcommand*\hyperit[1]{\textit{\glshypernumber{#1}}}

\hypersl
\newcommand*\hypersl[1]{\textsl{\glshypernumber{#1}}}
```

```
\hyperup
\newcommand*\hyperup[1]{\textup{\glsnumber{#1}}}
```

```
\hypersc
\newcommand*\hypersc[1]{\textsc{\glsnumber{#1}}}
```

```
\hyperemph
\newcommand*\hyperemph[1]{\emph{\glsnumber{#1}}}
```

2.17 Acronyms

\oldacronym

```
\oldacronym[⟨label⟩]{⟨abbrv⟩}{⟨long⟩}{⟨key-val list⟩}
```

This emulates the way the old `glossary` package defined acronyms. It is equivalent to `\newacronym[⟨key-val list⟩]{⟨label⟩}{⟨abbrv⟩}{⟨long⟩}` and it additionally defines the command `\⟨label⟩` which is equivalent to `\gls{⟨label⟩}` (thus `⟨label⟩` must only contain alphabetical characters). If `⟨label⟩` is omitted, `⟨abbrv⟩` is used. This only emulates the syntax of the old `glossary` package. The way the acronyms appear in the list of acronyms is determined by the definition of `\newacronym` and the `glossary` style.

Note that `\⟨label⟩` can't have an optional argument if the `xspace` package is loaded. If `xspace` hasn't been loaded then you can do `\⟨label⟩[⟨insert⟩]` but you can't do `\⟨label⟩[⟨key-val list⟩]`. For example if you define the acronym `svm`, then you can do `\svm[?s]` but you can't do `\svm[format=textbf]`. If the `xspace` package is loaded, `\svm[?s]` will appear as `svm [?s]` which is unlikely to be the desired result. In this case, you will need to use `\gls` explicitly, e.g. `\gls{svm}[?s]`. Note that it is up to the user to load `xspace` if desired.

```
\newcommand\oldacronym[4][\gls@label]{%
  \def\gls@label{#2}%
  \newacronym[#4]{#1}{#2}{#3}%
  \ifcsundef{xspace}%
  {%
    \expandafter\edef\csname#1\endcsname{%
      \noexpand@ifstar{\noexpand\Gls{#1}}{\noexpand\gls{#1}}%
    }%
  }%
  {%
    \expandafter\edef\csname#1\endcsname{%
      \noexpand@ifstar{\noexpand\Gls{#1}\noexpand\xspace}{%
        \noexpand\gls{#1}\noexpand\xspace}%
    }%
  }%
}
```

```
\newacronym[⟨key-val list⟩]{⟨label⟩}{⟨abbrev⟩}{⟨long⟩}
```


This is a quick way of defining acronyms, using `\newglossaryentry` with the appropriate values. It sets the glossary type to `\acronymtype` which will be `acronym` if the package option `acronym` has been used, otherwise it will be the default glossary. Since `\newacronym` merely calls `\newglossaryentry`, the acronym is treated like any other glossary entry.

If you prefer a different format, you can redefine `\newacronym` as required. The optional argument can be used to override any of the settings.

This is just a stub. It's redefined by `\SetGenericNewAcronym` and by `glossaries-extra`. It used to also be redefined by the obsolete acronym styles that have now been removed. If it is used then it means that the acronym style hasn't been initialised.

```
\newacronym
\newcommand{\newacronym}[4] []{%
  \gls@newacronym{#1}{#2}{#3}{#4}%
}
```

```
\gls@newacronym
\newcommand{\gls@newacronym}[4]{%
Setting the acronym style will redefine \newacronym because it calls \SetGenericNewAcronym
but if something weird has happened to alter this, redefine \gls@newacronym
now to prevent an infinite loop.
```

```
  \renewcommand{\gls@newacronym}[4]{%
    \PackageError{glossaries}{incompatible acronym style:
      rollback may be required}%
    {something has gone wrong with \string\newacronym. Try
      \string\usepackage{glossaries}[v4.49]}%
  }%
  \setacronymstyle{long-short}%
  \newacronym[#1]{#2}{#3}{#4}%
}
```

Set up some convenient short cuts. These need to be changed if `\newacronym` is changed (or if the description key is changed).

```
\acrpluralsuffix Plural suffix used by \newacronym. This just defaults to \glspluralsuffix
but is changed to include \textup if the smallcaps option is used, so that the
suffix doesn't appear in small caps as it doesn't look right. For example, ABCS
looks as though the "s" is part of the acronym, but ABCs looks as though the "s"
is a plural suffix. Since the entire text abcs is set in \textsc, \textup is need
to cancel it out.
```

```
\newcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}
```

If `garamondx` has been loaded, need to use `\textulc` instead of `\textup`.

```
\glstextup
\newrobustcmd*{\glstextup}[1]{\ifdef\textulc{\textulc{#1}}{\textup{#1}}}
```

The following are defined for compatibility with version 2.07 and earlier.

```

\glsshortkey
\newcommand*\glsshortkey}{short}

\glsshortpluralkey
\newcommand*\glsshortpluralkey}{shortplural}

\glslongkey
\newcommand*\glslongkey}{long}

\glslongpluralkey
\newcommand*\glslongpluralkey}{longplural}

```

Using `\acrlinkfullformat` and `\acrfullformat` is now deprecated. However, these commands are still used in the initial definition of `\acrfull` and `\glsentryfull`. The acronym style now redefines `\glsentryfull`, and `\acrfull` now uses `\acrfullfmt`, which is redefined by the acronym style. Similar for the case and plural variants. This means that `\acrlinkfullformat` and `\acrfullformat` should now longer be used with v4.50, which will ensure that `\setacronymstyle` is used on the first instance of `\newacronym` if a style hasn't been set.

Outlier cases may occur where someone has defined an entry explicitly with `\newglossaryentry` and set the long and short keys and is using `\glsentryfull` or `\acrfull` without a style set. So, for now, the deprecated `\acrlinkfullformat` and `\acrfullformat` are retained even though the remaining obsolete acronym code has been removed. However, they may be removed in a future version.

```

\acrlinkfullformat Format for full links like \acrfull. Syntax: \acrlinkfullformat{<long cs>}
{<short cs>}{<options>}{<label>}{<insert>} Deprecated.
\newcommand{\acrlinkfullformat}[5]{%
  \acrfullformat{#1{#3}{#4}[#5]}{#2{#3}{#4}[]}%
}

```

```

\acrfullformat Default full form is <long> (<short>). Deprecated.
\newcommand{\acrfullformat}[2]{#1\glsspace{#2}}

```

```

\glsspace Robust space to ensure it's written to the .glsdefs file.
\newrobustcmd{\glsspace}{\space}

```

The following `\acrfullfmt` set of commands are used by the corresponding `\acrfull` command, and are redefined by the acronym style to match the style's full form.

```

\acrfullfmt No case change full format. This default will be overridden by the acronym
style, so this definition shouldn't actually be used any more, but it still needs
to be defined so the it doesn't cause a problem when acronym styles redefine
it. This is initialised to use the deprecated \acrlinkfullformat but will be
redefined by the acronym style when it's set.
  \newcommand*\acrfullfmt}[3]{%
    \acrlinkfullformat{\@acrlong}{\@acrshort}{#1}{#2}{#3}%
  }

\Acrfullfmt Sentence case full format.
  \newcommand*\Acrfullfmt}[3]{%
    \acrlinkfullformat{\@Acrlong}{\@acrshort}{#1}{#2}{#3}%
  }

\ACRfullfmt All upper case full format.
  \newcommand*\ACRfullfmt}[3]{%
    \acrlinkfullformat{\@ACRlong}{\@ACRshort}{#1}{#2}{#3}%
  }

\acrfullplfmt No case change plural full format.
  \newcommand*\acrfullplfmt}[3]{%
    \acrlinkfullformat{\@acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
  }

\Acrfullplfmt Sentence case plural full format.
  \newcommand*\Acrfullplfmt}[3]{%
    \acrlinkfullformat{\@Acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
  }

\ACRfullplfmt All upper case plural full format.
  \newcommand*\ACRfullplfmt}[3]{%
    \acrlinkfullformat{\@ACRlongpl}{\@ACRshortpl}{#1}{#2}{#3}%
  }

\acrfull Full form of the acronym.
  \newrobustcmd*\acrfull{\@gls@hyp@opt\ns@acrfull}

  \newcommand*\ns@acrfull[2][ ]{%
    \new@ifnextchar[{\@acrfull{#1}{#2}}%
      {\@acrfull{#1}{#2}[ ]}%
  }

\@acrfull Low-level macro:
  \def\@acrfull#1#2[#3]{%
Make it easier for acronym styles to change this:
    \acrfullfmt{#1}{#2}{#3}%
  }

```

Default format for full acronym

`\Acrfull`

```
\newrobustcmd*{\Acrfull}{\@gls@hyp@opt\ns@Acrfull}
```

Add sentence case mapping.

```
\glsmfuaddmap{\acrfull}{\Acrfull}
```

```
\newcommand*\ns@Acrfull[2] []{%  
  \new@ifnextchar[{\@Acrfull{#1}{#2}}%  
    {\@Acrfull{#1}{#2} []}%  
}
```

Low-level macro:

```
\def\@Acrfull#1#2[#3]{%
```

Make it easier for acronym styles to change this:

```
\Acrfullfmt{#1}{#2}{#3}%  
}
```

`\ACRfull`

```
\newrobustcmd*{\ACRfull}{\@gls@hyp@opt\ns@ACRfull}
```

```
\newcommand*\ns@ACRfull[2] []{%  
  \new@ifnextchar[{\@ACRfull{#1}{#2}}%  
    {\@ACRfull{#1}{#2} []}%  
}
```

Low-level macro:

```
\def\@ACRfull#1#2[#3]{%
```

Make it easier for acronym styles to change this:

```
\ACRfullfmt{#1}{#2}{#3}%  
}
```

Plural:

`\acrfullpl`

```
\newrobustcmd*{\acrfullpl}{\@gls@hyp@opt\ns@acrfullpl}
```

```
\newcommand*\ns@acrfullpl[2] []{%  
  \new@ifnextchar[{\@acrfullpl{#1}{#2}}%  
    {\@acrfullpl{#1}{#2} []}%  
}
```

Low-level macro:

```
\def\@acrfullpl#1#2[#3]{%
```

Make it easier for acronym styles to change this:

```
\acrfullplfmt{#1}{#2}{#3}%  
}
```

```

\Acrfullpl
  \newrobustcmd*{\Acrfullpl}{\@gls@hyp@opt\ns@Acrfullpl}
Add sentence case mapping.
  \glsmfuaddmap{\acrfullpl}{\Acrfullpl}

  \newcommand*{\ns@Acrfullpl[2] []}{%
    \new@ifnextchar[{\@Acrfullpl{#1}{#2}}{%
      {\@Acrfullpl{#1}{#2} []}%
    }
  }

Low-level macro:
  \def\@Acrfullpl#1#2[#3]{%
Make it easier for acronym styles to change this:
  \Acrfullplfmt{#1}{#2}{#3}%
  }

```

```

\ACRfullpl
  \newrobustcmd*{\ACRfullpl}{\@gls@hyp@opt\ns@ACRfullpl}

  \newcommand*{\ns@ACRfullpl[2] []}{%
    \new@ifnextchar[{\@ACRfullpl{#1}{#2}}{%
      {\@ACRfullpl{#1}{#2} []}%
    }
  }

Low-level macro:
  \def\@ACRfullpl#1#2[#3]{%
Make it easier for acronym styles to change this:
  \ACRfullplfmt{#1}{#2}{#3}%
  }

```

2.18 Predefined acronym styles

`\acronymfont` Used by the acronym styles to apply a font change to the short form.

```
\newcommand{\acronymfont}[1]{#1}
```

`\firstacronymfont` Used by the acronym styles to apply a font change to the short form on first use.

```
\newcommand{\firstacronymfont}[1]{\acronymfont{#1}}
```

`\acrnameformat` The styles that allow an additional description use `\acrnameformat{<short>}{<long>}` to determine what information is displayed in the name.

```
\newcommand*{\acrnameformat}[2]{\acronymfont{#1}}
```

Define some tokens used by `\newacronym`:

```

\glskeylisttok
  \newtoks\glskeylisttok

```

```

\glslabeltok
    \newtoks\glslabeltok

\glsshorttok
    \newtoks\glsshorttok

\glslongtok
    \newtoks\glslongtok

\newacronymhook Provide a hook for \newacronym:
    \newcommand*\newacronymhook{}

\SetGenericNewAcronym New improved version of setting the acronym style.
    \newcommand*\SetGenericNewAcronym{%
Change the behaviour of \Glsentryname to workaround expansion issues that
cause a problem for \makefirstuc
    \let\@Gls@entryname\@Gls@acentryname
Change the way acronyms are defined:
    \renewcommand{\newacronym}[4][]{%
    \ifdefempty{\@glsacronymlists}%
    {%
        \def\@glo@type{\acronymtype}%
        \setkeys{glossentry}{##1}%
        \DeclareAcronymList{\@glo@type}%
    }%
    }%
    \glskeylisttok{##1}%
    \glslabeltok{##2}%
    \glsshorttok{##3}%
    \glslongtok{##4}%
    \newacronymhook
\protected@edef\@do@newglossaryentry{%
    \noexpand\newglossaryentry{\the\glslabeltok}%
    {%
        type=\acronymtype,%
        name={\expandonce{\acronymentry{##2}}},%
        sort={\acronymstort{\the\glsshorttok}{\the\glslongtok}},%
        text={\the\glsshorttok},%
        short={\the\glsshorttok},%
        shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
        long={\the\glslongtok},%

        longplural={\the\glslongtok\noexpand\glspluralsuffix},%
        \GenericAcronymFields,%
        \the\glskeylisttok
    }%
    }%
    \@do@newglossaryentry
}%

```

Make sure that `\acrfull` etc reflects the new style:

```
\renewcommand*\acrfullfmt}[3]{%
  \glslink[##1][##2]{\genacrfullformat{##2}{##3}}}%
\renewcommand*\Acrfullfmt}[3]{%
  \glslink[##1][##2]{\Genacrfullformat{##2}{##3}}}%
\renewcommand*\ACRfullfmt}[3]{%
  \glslink[##1][##2]{%
    \glsupercase{\genacrfullformat{##2}{##3}}}%
\renewcommand*\acrfullplfmt}[3]{%
  \glslink[##1][##2]{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\Acrfullplfmt}[3]{%
  \glslink[##1][##2]{\Genplacrfullformat{##2}{##3}}}%
\renewcommand*\ACRfullplfmt}[3]{%
  \glslink[##1][##2]{%
    \glsupercase{\genplacrfullformat{##2}{##3}}}%
}
```

Make sure that `\glsentryfull` etc reflects the new style:

```
\renewcommand*\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%
\renewcommand*\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
```

`\GenericAcronymFields` Fields used by `\SetGenericNewAcronym` that can be changed by the acronym style.

```
\newcommand*\GenericAcronymFields{description={\the\glslongtok}}
```

`\acronymentry`

```
\acronymentry{<label>}
```

Display style for the name field in the list of acronyms.

```
\newcommand*\acronymentry[1]{\acronymfont{\glsentryshort{#1}}}
```

`\acronymsort`

```
\acronymsort{<short>}{<long>}
```

Default sort format for acronyms.

```
\newcommand*\acronymsort[2]{#1}
```

`\setacronymstyle`

```
\setacronymstyle{<style name>}
```

```
\newcommand*\setacronymstyle[1]{%
  \ifcsundef{@glsacr@dispstyle@#1}
  {%
    \PackageError{glossaries}{Undefined acronym style ‘#1’}{%
  }%
  {%
  }
```

```

\ifdefempty{\@glsacronymlists}%
{%
  \DeclareAcronymList{\acronymstype}%
}%
{}%
\SetGenericNewAcronym
\GlsUseAcrStyleDefs{#1}%
\@for\@gls@type:=\@glsacronymlists\do{%
  \defglentryfmt[\@gls@type]{\GlsUseAcrEntryDispStyle{#1}}%
}%
}%
}

```

```

\newacronymstyle{<style name>}{<entry format
definition>}{<display definitions>}

```

`\newacronymstyle`

Defines a new acronym style called *<style name>*.

```

\newcommand*{\newacronymstyle}[3]{%
  \ifcsdef{@glsacr@dispstyle@#1}%
  {%
    \PackageError{glossaries}{Acronym style ‘#1’ already exists}{}%
  }%
  {%
    \csdef{@glsacr@dispstyle@#1}{#2}%
    \csdef{@glsacr@styledefs@#1}{#3}%
  }%
}

```

`\renewacronymstyle` Redefines the given acronym style.

```

\newcommand*{\renewacronymstyle}[3]{%
  \ifcsdef{@glsacr@dispstyle@#1}%
  {%
    \csdef{@glsacr@dispstyle@#1}{#2}%
    \csdef{@glsacr@styledefs@#1}{#3}%
  }%
  {%
    \PackageError{glossaries}{Acronym style ‘#1’ doesn’t exist}{}%
  }%
}

```

`\GlsUseAcrEntryDispStyle`

```

\newcommand*{\GlsUseAcrEntryDispStyle}[1]{\csuse{@glsacr@dispstyle@#1}}

```

`\GlsUseAcrStyleDefs`

```

\newcommand*{\GlsUseAcrStyleDefs}[1]{\csuse{@glsacr@styledefs@#1}}

```

Predefined acronym styles:

long-short *<long>* (*<short>*) acronym style.

```
\newacronymstyle{long-short}%  
{%
```

Check for long form in case this is a mixed glossary.

```
\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%  
}%  
{%  
  \renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%  
  \renewcommand*{\genacrfullformat}[2]{%  
    \glsentrylong{##1}##2\space  
    (\protect\firstacronymfont{\glsentryshort{##1}})%  
  }%  
  \renewcommand*{\Genacrfullformat}[2]{%  
    \Glsentrylong{##1}##2\space  
    (\protect\firstacronymfont{\glsentryshort{##1}})%  
  }%  
  \renewcommand*{\genplacrfullformat}[2]{%  
    \glsentrylongpl{##1}##2\space  
    (\protect\firstacronymfont{\glsentryshortpl{##1}})%  
  }%  
  \renewcommand*{\Genplacrfullformat}[2]{%  
    \Glsentrylongpl{##1}##2\space  
    (\protect\firstacronymfont{\glsentryshortpl{##1}})%  
  }%  
  \renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%  
  \renewcommand*{\acronymsort}[2]{##1}%  
  \renewcommand*{\acronymfont}[1]{##1}%  
  \renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%  
  \renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%  
}
```

long-sp-short Similar to the previous style but allows the space between the long and short form to be customized.

```
\newacronymstyle{long-sp-short}%  
{%
```

Check for long form in case this is a mixed glossary.

```
\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%  
}%  
{%  
  \renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%  
  \renewcommand*{\genacrfullformat}[2]{%  
    \glsentrylong{##1}##2\glsacspace{##1}%  
    (\protect\firstacronymfont{\glsentryshort{##1}})%  
  }%  
  \renewcommand*{\Genacrfullformat}[2]{%  
    \Glsentrylong{##1}##2\glsacspace{##1}%  
    (\protect\firstacronymfont{\glsentryshort{##1}})%  
  }%  
}
```

```

\renewcommand*\genplacrfullformat}[2]{%
  \glentrylongpl{##1}##2\glsacspace{##1}%
  (\protect\firstacronymfont{\glentryshortpl{##1}})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
  \Glsentrylongpl{##1}##2\glsacspace{##1}%
  (\protect\firstacronymfont{\glentryshortpl{##1}})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}

```

`\glsacspace` Space between long and short form for the above style. This uses a non-breakable space if the short form is less than 3em, otherwise it uses a regular space. It's unlikely that the short form will contain any instances of `\gls` so this just uses `\settowidth` instead of `\glsmeasurewidth`.

```

\newcommand*\glsacspace}[1]{%
  \settowidth{\dimen@}{(\firstacronymfont{\glentryshort{##1}})}%
  \ifdim\dimen@<3em~\else\space\fi
}

```

short-long *<short>* (*<long>*) acronym style.

```

\newacronymstyle{short-long}%
{

```

Check for long form in case this is a mixed glossary.

```

  \ifglsashaslong{\glslabel}{\glsacspace}{\glsacspace}%
}%
{
  \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
  \renewcommand*\genacrfullformat}[2]{%
    \protect\firstacronymfont{\glentryshort{##1}}##2\space
    (\glentrylong{##1})%
  }%
  \renewcommand*\Genacrfullformat}[2]{%
    \protect\firstacronymfont{\Glsentryshort{##1}}##2\space
    (\glentrylong{##1})%
  }%
  \renewcommand*\genplacrfullformat}[2]{%
    \protect\firstacronymfont{\glentryshortpl{##1}}##2\space
    (\glentrylongpl{##1})%
  }%
  \renewcommand*\Genplacrfullformat}[2]{%
    \protect\firstacronymfont{\Glsentryshortpl{##1}}##2\space
    (\glentrylongpl{##1})%
  }%
}

```

```

        \renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
        \renewcommand*\acronymsort}[2]{##1}%
        \renewcommand*\acronymfont}[1]{##1}%
        \renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
        \renewcommand*\acrpluralsuffix{\glspluralsuffix}%
    }

long-sc-short <long> (\textsc{<short>}) acronym style.
    \newacronymstyle{long-sc-short}%
    {%
        \GlsUseAcrEntryDispStyle{long-short}%
    }%
    {%
        \GlsUseAcrStyleDefs{long-short}%
        \renewcommand*\acronymfont}[1]{\textsc{##1}}%
        \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
    }

long-sm-short <long> (\textsmaller{<short>}) acronym style.
    \newacronymstyle{long-sm-short}%
    {%
        \GlsUseAcrEntryDispStyle{long-short}%
    }%
    {%
        \GlsUseAcrStyleDefs{long-short}%
        \renewcommand*\acronymfont}[1]{\textsmaller{##1}}%
        \renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
    }

sc-short-long <short> (\textsc{<long>}) acronym style.
    \newacronymstyle{sc-short-long}%
    {%
        \GlsUseAcrEntryDispStyle{short-long}%
    }%
    {%
        \GlsUseAcrStyleDefs{short-long}%
        \renewcommand*\acronymfont}[1]{\textsc{##1}}%
        \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
    }

sm-short-long <short> (\textsmaller{<long>}) acronym style.
    \newacronymstyle{sm-short-long}%
    {%
        \GlsUseAcrEntryDispStyle{short-long}%
    }%
    {%
        \GlsUseAcrStyleDefs{short-long}%
        \renewcommand*\acronymfont}[1]{\textsmaller{##1}}%
        \renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
    }

```

`long-short-desc` $\langle long \rangle$ ($\{\langle short \rangle\}$) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{long-short-desc}%
{%
  \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
  \GlsUseAcrStyleDefs{long-short}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}

```

`long-sp-short-desc` $\langle long \rangle$ ($\{\langle short \rangle\}$) acronym style that has an accompanying description (which the user needs to supply). The space between the long and short form is given by `\glsacspace`.

```

\newacronymstyle{long-sp-short-desc}%
{%
  \GlsUseAcrEntryDispStyle{long-sp-short}%
}%
{%
  \GlsUseAcrStyleDefs{long-sp-short}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\glsacspace{##1}(\acronymfont{\glsentryshort{##1}})}%
}

```

`long-sc-short-desc` $\langle long \rangle$ ($\backslash\textsc{\langle short \rangle}$) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{long-sc-short-desc}%
{%
  \GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{%
  \GlsUseAcrStyleDefs{long-sc-short}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}

```

`long-sm-short-desc` $\langle long \rangle$ ($\backslash\textsmaller{\langle short \rangle}$) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{long-sm-short-desc}%
{%
  \GlsUseAcrEntryDispStyle{long-sm-short}%
}%

```

```

{%
\GlsUseAcrStyleDefs{long-sm-short}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}

```

short-long-desc *<short>* (*{<long>}*) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{short-long-desc}%
{%
\GlsUseAcrEntryDispStyle{short-long}%
}%
{%
\GlsUseAcrStyleDefs{short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}

```

sc-short-long-desc *<long>* (*\textsc{<short>}*) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{sc-short-long-desc}%
{%
\GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%
\GlsUseAcrStyleDefs{sc-short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}

```

sm-short-long-desc *<long>* (*\textsmaller{<short>}*) acronym style that has an accompanying description (which the user needs to supply).

```

\newacronymstyle{sm-short-long-desc}%
{%
\GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
\GlsUseAcrStyleDefs{sm-short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}

```

```

dua <long> only acronym style.
  \newacronymstyle{dua}%
  {%
Check for long form in case this is a mixed glossary.
  \ifdefempty\glscustomtext
  {%
    \ifglshaslong{\glslabel}%
    {%
      \glsifplural
      {%
Plural form:
        \glscapscase
        {%
Plural form, don't adjust case:
          \glsentrylongpl{\glslabel}\glsinsert
          }%
          {%
Plural form, make first letter upper case:
          \Glsentrylongpl{\glslabel}\glsinsert
          }%
          {%
Plural form, all caps:
          \glsupercase
          {\glsentrylongpl{\glslabel}\glsinsert}%
          }%
          }%
          {%
Singular form
          \glscapscase
          {%
Singular form, don't adjust case:
          \glsentrylong{\glslabel}\glsinsert
          }%
          {%
Subsequent singular form, make first letter upper case:
          \Glsentrylong{\glslabel}\glsinsert
          }%
          {%
Subsequent singular form, all caps:
          \glsupercase
          {\glsentrylong{\glslabel}\glsinsert}%
          }%
          }%
          }%
          {%

```

Not an acronym:

```
\glsgenentryfmt
}%
}%
{\glscustomtext\glsinsert}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%

\renewcommand*{\acrfullfmt}[3]{%
\glslink[##1]{##2}{\glsentrylong{##2}##3\space
(\acronymfont{\glsentryshort{##2}})}%
\renewcommand*{\Acrfullfmt}[3]{%
\glslink[##1]{##2}{\Glsentrylong{##2}##3\space
(\acronymfont{\glsentryshort{##2}})}%
\renewcommand*{\ACRfullfmt}[3]{%
\glslink[##1]{##2}{%
\glsupercase{\glsentrylong{##2}##3\space
(\acronymfont{\glsentryshort{##2}})}}%

\renewcommand*{\acrfullplfmt}[3]{%
\glslink[##1]{##2}{\glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}%

\renewcommand*{\Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\Glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\glsupercase{\glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}}%
\renewcommand*{\glsentryfull}[1]{%
\glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Glsentryfull}[1]{%
\Glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
\glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
\Glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
```

dua-desc *<long>* only acronym style with user-supplied description.

```

\newacronymstyle{dua-desc}%
{%
  \GlsUseAcrEntryDispStyle{dua}%
}%
{%
  \GlsUseAcrStyleDefs{dua}%
  \renewcommand*{\GenericAcronymFields}{}%

  \renewcommand*{\acronymentry}[1]{\glsentrylong{##1}}%
  \renewcommand*{\acronymsort}[2]{##2}%
}%

```

footnote *<short>*\footnote{*<long>*} acronym style.

```

\newacronymstyle{footnote}%
{%

```

Check for long form in case this is a mixed glossary.

```

  \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
  \renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%

```

Need to ensure hyperlinks are switched off on first use:

```

\glshyperfirstfalse
\renewcommand*{\genacrfullformat}[2]{%
  \protect\firstacronymfont{\glsentryshort{##1}}##2%
  \protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\Genacrfullformat}[2]{%
  \firstacronymfont{\Glsentryshort{##1}}##2%
  \protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\genplacrfullformat}[2]{%
  \protect\firstacronymfont{\glsentryshortpl{##1}}##2%
  \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
  \protect\firstacronymfont{\Glsentryshortpl{##1}}##2%
  \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%

```

Don't use footnotes for \acrfull:

```

\renewcommand*{\acrfullfmt}[3]{%
  \glslink[##1]{##2}{\acronymfont{\glsentryshort{##2}}##3\space
  (\glsentrylong{##2})}%
\renewcommand*{\Acrfullfmt}[3]{%
  \glslink[##1]{##2}{\acronymfont{\Glsentryshort{##2}}##3\space

```



```

(\glsentrylong{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%
\glslink[##1]{##2}{%
\glsupercase{\acronymfont{\glsentryshort{##2}}##3\space
(\glsentrylong{##2})}}}%
\renewcommand*{\acrfullplfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\Glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\glsupercase{\acronymfont{\glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}}}%

```

Similarly for \glsentryfull etc:

```

\renewcommand*{\glsentryfull}[1]{%
\acronymfont{\glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\Glsentryfull}[1]{%
\acronymfont{\Glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\glsentryfullpl}[1]{%
\acronymfont{\glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
\renewcommand*{\Glsentryfullpl}[1]{%
\acronymfont{\Glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
}

```

footnote-sc \textsc{<short>}\footnote{<long>} acronym style.

```

\newacronymstyle{footnote-sc}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\renewcommand{\acronymfont}[1]{\textsc{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}%

```

footnote-sm \textsmaller{<short>}\footnote{<long>} acronym style.

```

\newacronymstyle{footnote-sm}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}%

```

footnote-desc *<short>*\footnote{*<long>*} acronym style that has an accompanying description (which the user needs to supply).

```
\newacronymstyle{footnote-desc}%
{%
  \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
  \GlsUseAcrStyleDefs{footnote}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
```

footnote-sc-desc \textsc{*<short>*}\footnote{*<long>*} acronym style that has an accompanying description (which the user needs to supply).

```
\newacronymstyle{footnote-sc-desc}%
{%
  \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
  \GlsUseAcrStyleDefs{footnote-sc}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
```

footnote-sm-desc \textsmaller{*<short>*}\footnote{*<long>*} acronym style that has an accompanying description (which the user needs to supply).

```
\newacronymstyle{footnote-sm-desc}%
{%
  \GlsUseAcrEntryDispStyle{footnote-sm}%
}%
{%
  \GlsUseAcrStyleDefs{footnote-sm}%
  \renewcommand*\GenericAcronymFields{}%
  \renewcommand*\acronymsort}[2]{##2}%
  \renewcommand*\acronymentry}[1]{%
    \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
```

\DefineAcronymSynonyms

```
\newcommand*\DefineAcronymSynonyms}{%
```

Short form

```
\acs
```

```
\let\acs\acrshort
```

First letter uppercase short form

`\Acs`

`\let\Acs\Acrshort`

Plural short form

`\acsp`

`\let\acsp\acrshortpl`

First letter uppercase plural short form

`\Acsp`

`\let\Acsp\Acrshortpl`

Long form

`\acl`

`\let\acl\acrlong`

Plural long form

`\aclp`

`\let\aclp\acrlongpl`

First letter upper case long form

`\Acl`

`\let\Acl\Acrlong`

First letter upper case plural long form

`\Aclp`

`\let\Aclp\Acrlongpl`

Full form

`\acf`

`\let\acf\acrfull`

Plural full form

`\acfp`

`\let\acfp\acrfullpl`

First letter upper case full form

`\Acf`

`\let\Acf\Acrfull`

First letter upper case plural full form

`\Acfp`

`\let\Acfp\Acrfullpl`

Standard form

```
\ac
  \let\ac\gls
```

First upper case standard form

```
\Ac
  \let\Ac\Gls
```

Standard plural form

```
\acp
  \let\acp\glspl
```

Standard first letter upper case plural form

```
\Acp
  \let\Acp\Glspl
}
```

Define synonyms if required

```
\ifglsacrshortcuts
  \DefineAcronymSynonyms
\fi
```

`\SetDefaultAcronymDisplayStyle` Sets the default acronym display style for given glossary. Used by `glossaries-extra` when restoring `\newacronym`.

```
\newcommand*{\SetDefaultAcronymDisplayStyle}[1]{%
  \defglsentryfmt[#1]{\glsgenentryfmt}%
}
```

The following commands for setting the acronym style are now deprecated.

`\DefaultNewAcronymDef` Sets up the acronym definition for the default style. The information is provided by the tokens `\glslabeltok`, `\glsshorttok`, `\glslongtok` and `\glskeylisttok`. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\@gls@noexpand@assign@default@plurals` was used in `\DefaultNewAcronymDef`. Added in v4.47 to fix bug #162 (<https://www.dickimaw-books.com/bugtracker.php?key=162>). Removed in v4.50 along with the deprecated styles.

`\@gls@default@acr@plural`

`\gls@default@acr@firstplural`

`\gls@default@acr@descplural`

`\SetDefaultAcronymStyle` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

<code>\acrfootnote</code>	This was used by the old footnote acronym styles. Since it may have been used outside of those styles, it has been retained. <code>\newcommand*{\acrfootnote}[3]{\acrlinkfootnote{#1}{#2}{#3}}</code>
<code>\acrlinkfootnote</code>	This was used by the old footnote acronym styles. Since it may have been used outside of those styles, it has been retained. <code>\newcommand*{\acrlinkfootnote}[3]{% \footnote{\glslink[#1]{#2}{#3}}% }</code>
<code>\acrnoflinkfootnote</code>	This was used by the old footnote acronym styles. Since it may have been used outside of those styles, it has been retained. <code>\newcommand*{\acrnoflinkfootnote}[3]{% \footnote{#3}% }</code>
<code>FootnoteAcronymDisplayStyle</code>	Sets the acronym display style for given glossary for the description and footnote combination. Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>DescriptionFootnoteNewAcronymDef</code>	Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>DescriptionFootnoteAcronymStyle</code>	If a description and footnote are both required, store the long form in the <code>symbol</code> key. Store the short form in <code>text</code> key. Note that since the long form is stored in the <code>symbol</code> key, if you want the long form to appear in the list of acronyms, you need to use a glossary style that displays the <code>symbol</code> key. This style was deprecated with the introduction of <code>\newacronymstyle</code> . Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>DescriptionDUAAcronymDisplayStyle</code>	Sets the acronym display style for given glossary with description and dua combination. Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>DescriptionDUANewAcronymDef</code>	Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>TextDescriptionDUAAcronymStyle</code>	Description, don't use acronym and no footnote. Note that the short form is stored in the <code>symbol</code> key, so if the short form needs to be displayed in the glossary, use a style the displays the <code>symbol</code> . This style was deprecated with the introduction of <code>\newacronymstyle</code> . Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>DescriptionAcronymDisplayStyle</code>	Sets the acronym display style for given glossary using the description setting (but not footnote or dua). Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.
<code>\DescriptionNewAcronymDef</code>	Deprecated following the introduction of <code>\setacronymstyle</code> . Removed in v4.50.

- `\SetDescriptionAcronymStyle` Option `description` is used, but not `dua` or `footnote`. Store long form in first key and short form in `text` and `symbol` key. The name is stored using `\acrnameformat` to allow the user to override the way the name is displayed in the list of acronyms. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\FootnoteAcronymDisplayStyle` Sets the acronym display style for given glossary with footnote setting (but not `description` or `dua`). Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\FootnoteNewAcronymDef` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\SetFootnoteAcronymStyle` If `footnote` package option is specified, set the first use to append the long form (stored in `description`) as a footnote. Use the `description` key to store the long form. This style was deprecated with the introduction of `\newacronymstyle`. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\glsdoparenifnotempty` Do a space followed by the argument if the argument doesn't expand to empty or `\relax`. If argument isn't empty (or `\relax`), apply the macro to it given in the second argument.
- ```

\newrobustcmd*{\glsdoparenifnotempty}[2]{%
 \protected@edef\gls@tmp{#1}%
 \ifdefempty\gls@tmp
 {}%
 {%
 \ifx\gls@tmp\@gls@default@value
 \else
 \space (#2{#1})%
 \fi
 }%
}

```
- `\SetSmallAcronymDisplayStyle` Sets the acronym display style for given glossary where neither footnote nor `description` is required, but `smallcaps` or `smaller` specified. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\SmallNewAcronymDef` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\SetSmallAcronymStyle` Neither footnote nor `description` required, but `smallcaps` or `smaller` specified. Use the `symbol` key to store the short form and `first` to store the long form. This style was deprecated with the introduction of `\newacronymstyle`. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.
- `\SetDUADisplayStyle` Sets the acronym display style for given glossary with `dua` setting. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\DUANewAcronymDef` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\SetDUASStyle` Always expand acronyms. This style was deprecated with the introduction of `\newacronymstyle`. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\@gls@deprecated@acr@warning`

```
\newcommand*{\@gls@deprecated@acr@warning}[3]{%
 \GlossariesWarning{Acronym style option #1 deprecated.
 Use \string\setacronymstyle{#2} with just glossaries.sty or
 use \string\setabbreviationstyle[acronym]{#3} with
 glossaries-extra.sty}%
}
```

`\SetAcronymStyle` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

Allow user to define their own custom acronyms. (For compatibility with versions before v3.0, the short form is stored in the `user1` key, the plural short form is stored in the `user2` key, the long form is stored in the `user3` key and the plural long form is stored in the `user4` key.) Defaults to displaying only the acronym with the long form as the description.

`\SetCustomDisplayStyle` Sets the acronym display style. Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\CustomAcronymFields` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\CustomNewAcronymDef` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

`\SetCustomStyle` Deprecated following the introduction of `\setacronymstyle`. Removed in v4.50.

## 2.19 Predefined Glossary Styles

The `glossaries` bundle comes with some predefined glossary styles. These need to be loaded now for the `style` option to use them.

First, the glossary hyper-navigation commands need to be loaded.

```
\RequirePackage{glossary-hypernav}
```

The styles that use list-like environments. These are not loaded if the `nolist` option is used:

```
\@gls@loadlist
```

The styles that use the `longtable` environment. These are not loaded if the `nolong` package option is used.

```
\@gls@loadlong
```

The styles that use the `supertabular` environment. These are not loaded if the `nosuper` package option is used or if the `supertabular` package isn't installed.

```
\@gls@loadsuper
```

The tree-like styles. These are not loaded if the `notree` package option is used.

```
\@gls@loadtree
```

The default glossary style is set according to the `style` package option, but can be overridden by `\glossarystyle`. The required style must be defined at this point.

```
\ifx\@glossary@default@style\relax
\else
\setglossarystyle{\@glossary@default@style}
\fi
```

## 2.20 Debugging Commands

`\showgloparent`

```
\showgloparent{<label>}
```

```
\newcommand*{\showgloparent}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@parent\endcsname
}
```

`\showglolevel`

```
\showglolevel{<label>}
```

```
\newcommand*{\showglolevel}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@level\endcsname
}
```

`\showglotext`

```
\showglotext{<label>}
```

```
\newcommand*{\showglotext}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@text\endcsname
}
```

`\showgloplural`

```
\showgloplural{<label>}
```

```
\newcommand*{\showgloplural}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@plural\endcsname
}
```



\showglofirst

```
\showglofirst{<label>}
```

```
\newcommand*{\showglofirst}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@first\endcsname
}
```

\showglofirstpl

```
\showglofirstpl{<label>}
```

```
\newcommand*{\showglofirstpl}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@firstpl\endcsname
}
```

\showgloftype

```
\showgloftype{<label>}
```

```
\newcommand*{\showgloftype}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@type\endcsname
}
```

\showglocounter

```
\showglocounter{<label>}
```

```
\newcommand*{\showglocounter}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@counter\endcsname
}
```

\showglouserii

```
\showglouserii{<label>}
```

```
\newcommand*{\showglouserii}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@userii\endcsname
}
```

\showglouserii

```
\showglouserii{<label>}
```

```
\newcommand*{\showglouserii}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@userii\endcsname
}
```

```

\showglouseriii \showglouseriii{<label>}

\newcommand*{\showglouseriii}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@useriii\endcsname
}

\showglouseriv \showglouseriv{<label>}

\newcommand*{\showglouseriv}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@useriv\endcsname
}

\showglouserv \showglouserv{<label>}

\newcommand*{\showglouserv}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@userv\endcsname
}

\showglouservi \showglouservi{<label>}

\newcommand*{\showglouservi}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@uservi\endcsname
}

\showgloname \showgloname{<label>}

\newcommand*{\showgloname}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@name\endcsname
}

\showglodesc \showglodesc{<label>}

\newcommand*{\showglodesc}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@desc\endcsname
}

```

`\showglodescplural`

```
\showglodescplural{<label>}
```

```
\newcommand*{\showglodescplural}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@descplural\endcsname
}
```

`\showglosort`

```
\showglosort{<label>}
```

```
\newcommand*{\showglosort}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@sort\endcsname
}
```

`\showglosymbol`

```
\showglosymbol{<label>}
```

```
\newcommand*{\showglosymbol}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@symbol\endcsname
}
```

`\showglosymbolplural`

```
\showglosymbolplural{<label>}
```

```
\newcommand*{\showglosymbolplural}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@symbolplural\endcsname
}
```

`\showgloshort`

```
\showgloshort{<label>}
```

```
\newcommand*{\showgloshort}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@short\endcsname
}
```

`\showglolong`

```
\showglolong{<label>}
```

```
\newcommand*{\showglolong}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@long\endcsname
}
```

`\showgloindex`

```
\showgloindex{<label>}
```

```
\newcommand*{\showgloindex}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@index\endcsname
}
```

`\showgloflag`

```
\showgloflag{<label>}
```

```
\newcommand*{\showgloflag}[1]{%
 \expandafter\show\csname ifglo@\glsdetoklabel{#1}@flag\endcsname
}
```

`\showgloloclist`

```
\showgloloclist{<label>}
```

```
\newcommand*{\showgloloclist}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@loclist\endcsname
}
```

`\showglofield`

```
\showglofield{<label>}{<field>}
```

```
\newcommand*{\showglofield}[2]{%
 \csshow{glo@\glsdetoklabel{#1}@#2}%
}
```

`\showacronymlists`

```
\showacronymlists
```

Show list of glossaries that have been flagged as a list of acronyms.

```
\newcommand*{\showacronymlists}{%
 \show\@glsacronymlists
}
```

`\showglossaries`

```
\showglossaries
```

Show list of defined glossaries.

```
\newcommand*{\showglossaries}{%
 \show\@glo@types
}
```

`\showglossaryin`

```
\showglossaryin{<glossary-label>}
```

Show the ‘in’ extension for the given glossary.

```
\newcommand*{\showglossaryin}[1]{%
 \expandafter\show\csname @glotype@#1in\endcsname
}
```

`\showglossaryout`

```
\showglossaryout{<glossary-label>}
```

Show the ‘out’ extension for the given glossary.

```
\newcommand*{\showglossaryout}[1]{%
 \expandafter\show\csname @glotype@#1out\endcsname
}
```

`\showglossarytitle`

```
\showglossarytitle{<glossary-label>}
```

Show the title for the given glossary.

```
\newcommand*{\showglossarytitle}[1]{%
 \expandafter\show\csname @glotype@#1title\endcsname
}
```

`\showglossarycounter`

```
\showglossarycounter{<glossary-label>}
```

Show the counter for the given glossary.

```
\newcommand*{\showglossarycounter}[1]{%
 \expandafter\show\csname @glotype@#1counter\endcsname
}
```

`\showglossaryentries`

```
\showglossaryentries{<glossary-label>}
```

Show the list of entry labels for the given glossary.

```
\newcommand*{\showglossaryentries}[1]{%
 \expandafter\show\csname glolist@#1\endcsname
}
```

## 2.21 Compatibility with version 2.07 and below

The backward-compatibility options have been removed in version 4.50. Use the rollback feature instead if backward-compatibility is required. Bear in mind that v2.07 was released 2010-07-10 and v3.07 was released 2013-07-05. Any old documents from that long ago will probably have problems with recent kernels.

In order to fix some bugs in v3.0, it was necessary to change the way information is written to the `glo` file, which also meant a change in the format of the Xindy style file. The compatibility option is meant for documents that use a customised Xindy style file with `\noist`. With the compatibility option, hopefully `xindy` will still be able to process the old document, but the bugs will remain. The issues in versions 2.07 and below:

- With `xindy`, the counter used by the entry was hard-coded into the Xindy style file. This meant that you couldn't use the `counter` to swap counters.
- With both `xindy` and `makeindex`, if used with `hyperref` and `\theH{counter}` was different to `\thecounter`, the link in the location number would be undefined.

## 3 Glossary Styles

### 3.1 Glossary hyper-navigation definitions (`glossary-hypernav.sty`)

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-hypernav-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-hypernav-2021-11-01.sty}
\DeclareRelease{v4.52}{2022-11-03}{glossary-hypernav-2022-11-03.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Package Definition:

```
\ProvidesPackage{glossary-hypernav}[2024/11/01 v4.55 (NLCT)]
```

The commands defined in this package are provided to help navigate around the groups within a glossary (see [subsection 2.16.](#)) `\printglossary` (and `\printglossaries`) set `\@glo@type` to the label of the current glossary. This is used to create a unique `hypertarget` in the event of multiple glossaries.

```
\glsnavhyperlink[<type>]{<label>}{<text>}
```

This command makes `<text>` a hyperlink to the glossary group whose label is given by `<label>` for the glossary given by `<type>`.

`\glsnavhyperlink` The optional argument is the glossary type and can be used to make the group label unique in case the same group occurs in multiple glossaries. The optional argument was `\@glo@type` but is now `\currentglossary` because that's less likely to change within the glossary. It's unlikely that the optional argument will be used to set it to anything other than `\currentglossary` but it makes it possible to hyperlink to the group from outside of the glossary.

```
\newcommand*\glsnavhyperlink[3][\currentglossary]{%
\protected@edef\gls@grplabel{#2}\protected@edef\@gls@grptitle{#3}%
\@glslink{\glsnavhyperlinkname{#1}{#2}}{#3}%
}
```

`\glsnavhyperlinkname` Expands to the hypertarget name. The first argument is the glossary type. The second argument is the group label.

```
\newcommand*{\glsnavhyperlinkname}[2]{glsn:#1@#2}
```

Version 4.53: reimplemented list of hypertarget groups as a sequence. Previously, the targets were stored as comma-separated lists in `\@gls@hypergrouplist@<glossary>` (where `<glossary>` is the glossary label). They are now stored in a sequence `\g_glossaries_<glossary>_hypergroups_seq`.

```
\ExplSyntaxOn
```

```
\glossaries_add_hypergroup:nn{<glossary>}{<target>}
```

Add a target to the sequence unless it's already contained in it:

```
\cs_new:Npn \glossaries_add_hypergroup:nn #1 #2
{
 \seq_if_exist:cTF
 { g_glossaries_ #1 _hypergroups_seq }
 {
 \seq_if_in:cnF
 { g_glossaries_ #1 _hypergroups_seq } { #2 }
 {
 \seq_gput_right:cn
 { g_glossaries_ #1 _hypergroups_seq }
 { #2 }
 }
 }
}
\cs_generate_variant:Nn \glossaries_add_hypergroup:nn { nx }
```

Check if the given target has been added to the sequence to avoid duplicates.

```
\cs_new:Npn \glossaries_if_hypergroup:nnTF #1 #2 #3 #4
{
 \seq_if_exist:cTF
 { g_glossaries_ #1 _hypergroups_seq }
 {
 \seq_if_in:cnTF
 { g_glossaries_ #1 _hypergroups_seq } { #2 }
 { #3 } { #4 }
 }
 { #4 }
}
\cs_generate_variant:Nn \glossaries_if_hypergroup:nnTF { nxTF }
```

Only true part:

```
\cs_new:Npn \glossaries_if_hypergroup:nnT #1 #2 #3
{
 \glossaries_if_hypergroup:nnTF { #1 } { #2 } { #3 } { }
}
\cs_generate_variant:Nn \glossaries_if_hypergroup:nnT { nxT }
```

Only false part:

```
\cs_new:Npn \glossaries_if_hypergroup:nnF #1 #2 #3
{
 \glossaries_if_hypergroup:nnTF { #1 } { #2 } { } { #3 }
}
\cs_generate_variant:Nn \glossaries_if_hypergroup:nnF { nxF }
```

```
\glsnavhypertarget[type]{label}{text}
```

`\glsnavhypertarget`

This command makes *text* a hypertarget for the glossary group whose label is given by *label* in the glossary given by *type*. If *type* is omitted, `\gls@type` is used which is set by `\printglossary` to the current glossary label. The optional argument complicates things for `glossaries-extra`.

```
\newcommand*\glsnavhypertarget{\protect\@gls@navhypertarget}
```

`\@gls@navhypertarget`

```
\newcommand*\@gls@navhypertarget[3][\currentglossary]{%
 \glsnavhypertarget{#1}{#2}{#3}%
}
```

`\glsnavhypergroupdotarget` Provided to make it easier for `glossaries-extra` to adjust the target.

```
\newcommand{\glsnavhypergroupdotarget}[3]{
 \glsstarget{\glsnavhyperlinkname{#1}{#2}}{#3}%
}
```

The actual code is now in an internal command that doesn't have an optional argument, which makes it easier to save and restore the original behaviour.

`\@glsnavhypertarget`

```
\newcommand*\@glsnavhypertarget[3]{%
```

Add this group to the aux file for re-run check.

```
\protected@write\@auxout{\string\@gls@hypergroup{#1}{#2}}%
```

Add the target.

```
\glsnavhypergroupdotarget { #1 } { #2 } { #3 }
```

Check list of known groups to determine if a re-run is required.

```
\glossaries_if_hypergroup:nxF { #1 } { #2 }
{
```



This group was not included in the list, so issue a warning.

```

\GlossariesWarningNoLine{Navigation ~ panel ~
 for ~ glossary ~ type ~ '#1'^^Jmissing ~ group ~ '#2'}%
\gdef\gls@hypergrouprerun{%
 \GlossariesWarningNoLine{Navigation ~ panel ~
 has ~ changed. ~ Rerun ~ LaTeX}}%
}
}

```

`\gls@hypergrouprerun` Give a warning at the end if re-run required

```

\let\gls@hypergrouprerun\relax
\AtEndDocument{\gls@hypergrouprerun}

```

`\@gls@hypergroup` This adds to (or creates) the command `\@gls@hypergrouplist@<glossary type>` which lists all groups for a given glossary, so that the navigation bar only contains those groups that are present. However it requires at least 2 runs to ensure the information is up-to-date.

```

\newcommand*{\@gls@hypergroup}[2]{
 \glossaries_add_hypergroup:nx { #1 } { #2 }
}

```

The `\glsnavigation` command displays a simple glossary group navigation. The symbol and number elements are defined separately, so that they can be suppressed if need be. (In earlier versions this command will produce a link to all 28 groups, but some groups may not be defined if there are groups that do not contain any terms, in which case you will get an undefined hyperlink warning. Version 1.14 changed this to only use labels for groups that are present.) Now for the whole navigation bit:

`\glsnavigation`

```

\newcommand*{\glsnavigation}{%
 \def\@gls@between{}%
 \seq_map_inline:cn { g_glossaries_ \currentglossary _hypergroups_seq }
 {
 \@gls@between
 \glsnavigationitem { ##1 }
 \let\@gls@between\glshypernavsep
 }%
}

```

`\glsnavigationitem`

```

\newcommand{\glsnavigationitem}[1]{%
 \@gls@getgrouptitle { #1 } { \@gls@grptitle }
 \exp_args:Nno \glsnavhyperlink { #1 } { \@gls@grptitle }
}

```

`\glshypernavsep` Separator for the hyper navigation bar.

```

\newcommand*{\glshypernavsep}{\space\textbar\space}

```

The `\glssymbolnav` produces a simple navigation set of links for just the symbol and number groups. This used to be used at the start of `\glsnavigation`. This command is no longer needed.

```
\glssymbolnav
\newcommand*{\glssymbolnav}{%
 \glsnavhyperlink{glssymbols}{\glsgetgrouptitle{glssymbols}}%
 \glshypernavsep
 \glsnavhyperlink{glsnumbers}{\glsgetgrouptitle{glsnumbers}}%
 \glshypernavsep
}
\ExplSyntaxOff
```

### 3.2 In-line Style (`glossary-inline.sty`)

This defines an in-line style where the entries are comma-separated with just the name and description displayed.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-inline-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-inline-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-inline}[2024/11/01 v4.55 (NLCT)]
```

`inline` Define the inline style.

```
\newglossarystyle{inline}{%
```

Start of glossary sets up first empty separator between entries. (This is then changed by `\glossentry`)

```
\renewenvironment{theglossary}%
 {%
 \def\gls@inlinesep{}%
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{}%
 }%
 {\glspostinline}%
```

No header:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings (if heading is required, add `\glsinlinedopostchild` to start definition in case heading follows a child entry):

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Just display separator followed by name and description:

```
\renewcommand{\glossentry}[2]{%
 \glsinlinedopostchild
```

```

\gls@inlinesep
\glsentryitem{##1}%
\glsinlinenameformat{##1}{%
 \glossentryname{##1}%
}%
\ifglsdescsuppressed{##1}%
{%
 \glsinlineemptydescformat
 {%
 \glossentrysymbol{##1}%
 }%
 {%
 ##2%
 }%
}%
{%
 \ifglshasdesc{##1}%
 {\glsinlinedescformat{\glossentrydesc{##1}}{\glossentrysymbol{##1}}{##2}}%
 {\glsinlineemptydescformat{\glossentrysymbol{##1}}{##2}}%
}%
\glsinlineifhaschildren{##1}%
{%
 \glsresetsubentrycounter
 \glsinlineparentchildseparator
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{\glsinlinepostchild}%
}%
{%
 {}%
 \def\gls@inlinesep{\glsinlineseparator}%
}%

```

Sub-entries display description:

```

\renewcommand{\subglossentry}[3]{%
 \gls@inlinesubsep%
 \glsinlinesubnameformat{##2}{%
 \glossentryname{##2}}%
 \glssubentryitem{##2}%
 \glsinlinesubdescformat{\glossentrydesc{##2}}{\glossentrysymbol{##2}}{##3}%
 \def\gls@inlinesubsep{\glsinlinesubseparator}%
}%

```

Nothing special between groups:

```

\renewcommand*{\glsgroupskip}{}%
}

```

`\glsinlineifhaschildren`

```

\newcommand{\glsinlineifhaschildren}[3]{%
 \ifglshaschildren{#1}{#2}{#3}%
}

```

`\glsinlinedopostchild`

```

\newcommand*\glsinlinedopostchild{%
 \gls@inlinepostchild
 \def\gls@inlinepostchild{}%
}

```

`\glsinlineseparator` Separator to use between entries.  
`\newcommand*\glsinlineseparator}{;\space}`

`\glsinlinesubseparator` Separator to use between sub-entries.  
`\newcommand*\glsinlinesubseparator}{,\space}`

`\glsinlineparentchildseparator` Separator to use between parent and children.  
`\newcommand*\glsinlineparentchildseparator}{:\space}`

`\glsinlinepostchild` Hook to use between child and next entry  
`\newcommand*\glsinlinepostchild}{}`

`\glspostinline` Terminator for inline glossary.  
`\newcommand*\glspostinline}{\glspostdescription\space}`

`\glsinlinenameformat` Formats the name of the entry (first argument label, second argument name):  
`\newcommand*\glsinlinenameformat}[2]{\glstarget{#1}{#2}}`

`\glsinlinedescformat` Formats the entry's description, symbol and location list:  
`\newcommand*\glsinlinedescformat}[3]{\space#1}`

`\glsinlineemptydescformat` Formats the entry's symbol and location list when the description is empty:  
`\newcommand*\glsinlineemptydescformat}[2]{}`

`\glsinlinesubnameformat` Formats the name of the subentry (first argument label, second argument name):  
`\newcommand*\glsinlinesubnameformat}[2]{\glstarget{#1}{}}`

`\glsinlinesubdescformat` Formats the subentry's description, symbol and location list:  
`\newcommand*\glsinlinesubdescformat}[3]{#1}`

### 3.3 List Style (`glossary-list.sty`)

The `glossary-list` style file defines glossary styles that use the `description` environment. Note that since the entry name is placed in the optional argument to the `\item` command, it will appear in a bold font by default.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```

\DeclareRelease{v4.46}{2020-03-19}{glossary-list-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-list-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}

```

Declare package:

```
\ProvidesPackage{glossary-list}[2024/11/01 v4.55 (NLCT)]
```

`\indexspace` There are a few classes that don't define `\indexspace`, so provide a definition if it hasn't been defined.

```
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
```

`\glslistgroupheaderfmt` Provide a way of adjusting the format of the group headings.

```
\newcommand*{\glslistgroupheaderfmt}[1]{#1}
```

`\glslistnavigationitem` Provide a way of adjusting the format of the navigation header. This puts the navigation line inside the optional argument of `item` to prevent unwanted space occurring at the start, but this can cause a problem if the navigation line is too long. With this command, it makes it easier for the user to customise the style without having to remember to modify `\glossaryheader` after the style has been set.

```
\newcommand*{\glslistnavigationitem}[1]{\item[#1]}
```

`\glslistinit` Provide a way to ensure appropriate expansion of the name if `entrycounter` is used with `getttitlestring`:

```
\newcommand{\glslistinit}{%
 \ifdef\GetTitleStringDisableCommands
 {%
 \GetTitleStringSetup{expand}%
 \GetTitleStringDisableCommands{%
 \let\glsentryitem\@gobble
 \let\glstarget\@secondoftwo
 \let\glossentryname\glslistexpandedname
 \let\glslistgroupheaderfmt\@firstofone
 \let\glsgetgrouptitle\@firstofone
 \let\glsnavhypertarget\@secondoftwo
 \let\glsnavigation\relax
 }%
 }%
 {}%
}
```

`\glslistexpandedname`

```
\newcommand{\glslistexpandedname}[1]{%
 \glsunexpandedfieldvalue{#1}{name}%
}
```

`list` The list glossary style uses the description environment. The group separator `\glsgroupskip` is redefined as `\indexspace` which produces a gap between groups. The glossary heading and the group headings do nothing. Sub-entries immediately follow the main entry without the sub-entry name. This style does not use the entry's symbol. This is used as the default style for the glossaries package.

```
\newglossarystyle{list}{%
```

Use description environment:

```
\renewenvironment{theglossary}%
 {\glslistinit\begin{description}}{\end{description}}%
```

No header at the start of the environment:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries start a new item in the list:

```
\renewcommand*{\glossentry}[2]{%
 \item[\glsentryitem{##1}%
 \glstarget{##1}{\glossentryname{##1}}]
 \glossentrydesc{##1}\glspostdescription\space ##2}%
```

Sub-entries continue on the same line:

```
\renewcommand*{\subglossentry}[3]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\space
 \glossentrydesc{##2}\glspostdescription\space ##3.}%
```

Add vertical space between groups:

```
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}%
}
```

**listgroup** The listgroup style is like the list style, but the glossary groups have headings.

```
\newglossarystyle{listgroup}{%
```

Base it on the list style:

```
\setglossarystyle{list}%
```

Each group has a heading:

```
\renewcommand*{\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
```

**listhypergroup** The listhypergroup style is like the listgroup style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{listhypergroup}{%
```

Base it on the list style:

```
\setglossarystyle{list}%
```

Add navigation links at the start of the environment.

```
\renewcommand*{\glossaryheader}{%
 \glslistnavigationitem{\glsnavigation}}%
```

Each group has a heading with a hypertarget:

```
\renewcommand*{\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}]}
```

**altlist** The altlist glossary style is like the list style, but places the description on a new line. Sub-entries follow in separate paragraphs without the sub-entry name. This style does not use the entry's symbol.

```
\newglossarystyle{altlist}{%
```

Base it on the list style:

```
\setglossarystyle{list}%
```

Main (level 0) entries start a new item in the list with a line break after the entry name:

```
\renewcommand*{\glossentry}[2]{%
\item[\glsentryitem{##1}%
\glstarget{##1}{\glossentryname{##1}}]%
```

Version 3.04 changed `\newline` to the following paragraph break stuff (thanks to Daniel Gebhardt for supplying the fix) to prevent a page break occurring at this point.

```
\mbox{}\par\nobreak\@afterheading
\glossentrydesc{##1}\glspostdescription\space ##2}%
```

Sub-entries start a new paragraph:

```
\renewcommand{\subglossentry}[3]{%
\par
\glsentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space ##3}%
}
```

**altlistgroup** The altlistgroup glossary style is like the altlist style, but the glossary groups have headings.

```
\newglossarystyle{altlistgroup}{%
```

Base it on the altlist style:

```
\setglossarystyle{altlist}%
```

Each group has a heading:

```
\renewcommand*{\glsgroupheading}[1]{%
\item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
```

**altlisthypergroup** The altlisthypergroup glossary style is like the altlistgroup style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{altlisthypergroup}{%
```

Base it on the altlist style:

```
\setglossarystyle{altlist}%
```

Add navigation links at the start of the environment.

```
\renewcommand*{\glossaryheader}{%
\glslistnavigationitem{\glsnavigation}}%
```

Each group has a heading with a hypertext:

```
\renewcommand*{\glsgroupheading}[1]{%
\item[\glslistgroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}]}
```

`listdotted` The `listdotted` glossary style was supplied by Axel Menzel. I've modified it slightly so that the distance from the start of the name to the end of the dotted line is specified by `\glslistdottedwidth`. Note that this style ignores the page numbers as well as the symbol. Sub-entries are displayed in the same way as top-level entries.

```
\newglossarystyle{listdotted}{%
```

Base it on the `list` style:

```
\setglossarystyle{list}%
```

Each main (level 0) entry starts a new item:

```
\renewcommand*{\glossentry}[2]{%
 \item[\makebox[\glslistdottedwidth][l]{%
 \glsentryitem{##1}%
 \glstarget{##1}{\glossentryname{##1}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}\glossentrydesc{##1}}%
```

Sub entries have the same format as main entries:

```
\renewcommand*{\subglossentry}[3]{%
 \item[\makebox[\glslistdottedwidth][l]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\glossentryname{##2}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}\glossentrydesc{##2}}%
}
```

```
\glslistdottedwidth
```

```
\newlength\glslistdottedwidth
\setlength{\glslistdottedwidth}{.5\hsize}
```

`sublistdotted` This style is similar to the `glostylelistdotted` style, except that the main entries just have the name displayed.

```
\newglossarystyle{sublistdotted}{%
```

Base it on the `listdotted` style:

```
\setglossarystyle{listdotted}%
```

Main (level 0) entries just display the name:

```
\renewcommand*{\glossentry}[2]{%
 \item[\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}}}%
}
```

### 3.4 Glossary Styles using `longtable` (`glossary-long.sty`)

The glossary styles defined in the `glossary-long` package used the `longtable` environment in the glossary.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-long-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-long-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```



Declare package:

```
\ProvidesPackage{glossary-long}[2024/11/01 v4.55 (NLCT)]
```

Requires the longtable package:

```
\RequirePackage{longtable}
```

`\glsdescwidth` This is a length that governs the width of the description column. (There's a chance that the user may specify `nolong` and then load `glossary-long` later, in which case `\glsdescwidth` may have already been defined by `glossary-super`. The same goes for `\glspagelistwidth`.)

```
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{}
```

`\glspagelistwidth` This is a length that governs the width of the page list column.

```
\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{}
```

`long` The long glossary style command which uses the `longtable` environment:

```
\newglossarystyle{long}{%
```

Use `longtable` with two columns:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{lp{glsdescwidth}}}%
 {\end{longtable}}%
```

Do nothing at the start of the environment:

```
\renewcommand*{glossaryheader}{}%
```

No heading between groups:

```
\renewcommand*{glsgroupheading}[1]{}%
```

Main (level 0) entries displayed in a row:

```
\renewcommand{glossentry}[2]{%
 \glstentryitem{##1}\glstarget{##1}{glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
}%
```

Sub entries displayed on the following row without the name:

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip{ & \tabularnewline}%
\fi
}
```

`longborder` The `longborder` style is like the above, but with horizontal and vertical lines:

```
\newglossarystyle{longborder}{%
```

Base it on the `glostylelong` style:

```
\setglossarystyle{long}%
```

Use `longtable` with two columns with vertical lines between each column:

```
\renewenvironment{theglossary}{%
 \begin{longtable}{|l|p{\glsdescwidth}|}{\end{longtable}}%
```

Place horizontal lines at the head and foot of the table:

```
\renewcommand*\glossaryheader{\hline\endhead\hline\endfoot}%
}
```

`longheader` The `longheader` style is like the `long` style but with a header:

```
\newglossarystyle{longheader}{%
```

Base it on the `glostylelong` style:

```
\setglossarystyle{long}%
```

Set the table's header:

```
\renewcommand*\glossaryheader{%
 \bfseries \entryname & \bfseries \descriptionname\tabularnewline\endhead}%
}
```

`longheaderborder` The `longheaderborder` style is like the `long` style but with a header and border:

```
\newglossarystyle{longheaderborder}{%
```

Base it on the `glostylelongborder` style:

```
\setglossarystyle{longborder}%
```

Set the table's header and add horizontal line to table's foot:

```
\renewcommand*\glossaryheader{%
 \hline\bfseries \entryname & \bfseries
 \descriptionname\tabularnewline\hline
 \endhead
 \hline\endfoot}%
}
```

`long3col` The `long3col` style is like `long` but with 3 columns

```
\newglossarystyle{long3col}{%
```

Use a `longtable` with 3 columns:

```
\renewenvironment{theglossary}%
 {\begin{longtable}[lp{\glsdescwidth}p{\glspagelistwidth}}%
 {\end{longtable}}%
```

No table header:

```
\renewcommand*{\glossaryheader}{}%
```

No headings between groups:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries on a row (name in first column, description in second column, page list in last column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
}%
```

Sub-entries on a separate row (no name, description in second column, page list in third column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
\fi
}
```

`long3colborder` The `long3colborder` style is like the `long3col` style but with a border:

```
\newglossarystyle{long3colborder}{}%
```

Base it on the `glostylelong3col` style:

```
\setglossarystyle{long3col}{}%
```

Use a `longtable` with 3 columns with vertical lines around them:

```
\renewenvironment{theglossary}%
 {\begin{longtable}[|l|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{longtable}}%
```

Place horizontal lines at the head and foot of the table:

```
\renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
```

`long3colheader` The `long3colheader` style is like `long3col` but with a header row:

```
\newglossarystyle{long3colheader}{%
Base it on the glostylelong3col style:
\setglossarystyle{long3col}%
Set the table's header:
\renewcommand*{\glossaryheader}{%
\bfseries\entryname&\bfseries\descriptionname&
\bfseries\pagelistname\tabularnewline\endhead}%
}
```

`long3colheaderborder` The `long3colheaderborder` style is like the above but with a border

```
\newglossarystyle{long3colheaderborder}{%
Base it on the glostylelong3colborder style:
\setglossarystyle{long3colborder}%
Set the table's header and add horizontal line at table's foot:
\renewcommand*{\glossaryheader}{%
\hline
\bfseries\entryname&\bfseries\descriptionname&
\bfseries\pagelistname\tabularnewline\hline\endhead
\hline\endfoot}%
}
```

`long4col` The `long4col` style has four columns where the third column contains the value of the associated symbol key.

```
\newglossarystyle{long4col}{%
Use a longtable with 4 columns:
\renewenvironment{theglossary}%
{\begin{longtable}{l111}}%
{\end{longtable}}%
No table header:
\renewcommand*{\glossaryheader}{}%
No group headings:
\renewcommand*{\glsgroupheading}[1]{}%
Main (level 0) entries on a single row (name in first column, description in
second column, symbol in third column, page list in last column):
\renewcommand{\glossentry}[2]{%
\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1} &
\glossentrysymbol{##1} &
##2\tabularnewline
}%
```

Sub entries on a single row with no name (description in second column, symbol in third column, page list in last column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
}%
```

Blank row between groups: The check for nogroupskip must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip{ & & \tabularnewline}%
\fi
}
```

`long4colheader` The `long4colheader` style is like `long4col` but with a header row.

```
\newglossarystyle{long4colheader}{%
Base it on the glostylelong4col style:
 \setglossarystyle{long4col}%
Table has a header:
 \renewcommand*\glossaryheader{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
```

`long4colborder` The `long4colborder` style is like `long4col` but with a border.

```
\newglossarystyle{long4colborder}{%
Base it on the glostylelong4col style:
 \setglossarystyle{long4col}%
Use a longtable with 4 columns surrounded by vertical lines:
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
Add horizontal lines to the head and foot of the table:
 \renewcommand*\glossaryheader{\hline\endhead\hline\endfoot}%
}
```

`long4colheaderborder` The `long4colheaderborder` style is like the above but with a border.

```
\newglossarystyle{long4colheaderborder}{%
Base it on the glostylelong4col style:
 \setglossarystyle{long4col}%
```

Use a `longtable` with 4 columns surrounded by vertical lines:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
```

Add table header and horizontal line at the table's foot:

```
\renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
```

`altlong4col` The `altlong4col` style is like the `long4col` style but can have multiline descriptions and page lists.

```
\newglossarystyle{altlong4col}{%
```

Base it on the `glostylelong4col` style:

```
\setglossarystyle{long4col}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}%
 {\end{longtable}}%
}
```

`altlong4colheader` The `altlong4colheader` style is like `altlong4col` but with a header row.

```
\newglossarystyle{altlong4colheader}{%
```

Base it on the `glostylelong4colheader` style:

```
\setglossarystyle{long4colheader}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}%
 {\end{longtable}}%
}
```

`altlong4colborder` The `altlong4colborder` style is like `altlong4col` but with a border.

```
\newglossarystyle{altlong4colborder}{%
```

Base it on the `glostylelong4colborder` style:

```
\setglossarystyle{long4colborder}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}}%
 {\end{longtable}}%
}
```

`altlong4colheaderborder` The `altlong4colheaderborder` style is like the above but with a header as well as a border.

```
\newglossarystyle{altlong4colheaderborder}{%
```

Base it on the `glostylolong4colheaderborder` style:

```
\setglossarystyle{long4colheaderborder}{%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}{%
 {\begin{longtable}{|l|p{\glsdescwidth}|l|p{\glspagerlistwidth}|}%
 {\end{longtable}}}%
}
```

### 3.5 Glossary Styles using `longtable` and `booktabs` (`glossary-longbooktabs.sty`)

The styles here are based on David Carlisle's patch at <http://tex.stackexchange.com/a/56890>

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-longbooktabs-2020-03-19.sty}
```

```
\DeclareRelease{v4.49}{2021-11-01}{glossary-longbooktabs-2021-11-01.sty}
```

```
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-longbooktabs}[2024/11/01 v4.55 (NLCT)]
```

Requires `booktabs` package:

```
\RequirePackage{booktabs}
```

and the base packages for long styles:

```
\RequirePackage{glossary-long}
```

```
\RequirePackage{glossary-longragged}
```

(`longtable` and `array` loaded by those packages).

`long-booktabs` The `long-booktabs` style is similar to the `longheader` style but uses the `booktabs` rules and patches `longtable` to check for group skip occurring at a page break.

```
\newglossarystyle{long-booktabs}{%
```

If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

As with the `longheader` style, use the `long` style as a base.

```
\setglossarystyle{long}{%
```

Add a header with rules.

```
\renewcommand*\glossaryheader}{%
\toprule \bfseries \entryname & \bfseries
\descriptionname\tabularnewline\midrule\endhead
\bottomrule\endfoot}%
```

Check for the `nogroupskip` package option. If there should be a gap between groups, insert the penalty and the vertical space. The check for `nogroupskip` should occur outside `\glsgroupskip` to be on the safe side.

```
\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else
\renewcommand*\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
```

`long3col-booktabs` The `long3col-booktabs` style is similar to the `long3colheader` style but uses the `booktabs` rules and patches `longtable` to check for group skip occurring at a page break.

```
\newglossarystyle{long3col-booktabs}{%
```

If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

Use the `long3col` style as a base.

```
\setglossarystyle{long3col}%
```

Add a header with rules.

```
\renewcommand*\glossaryheader}{%
\toprule \bfseries \entryname &
\bfseries \descriptionname &
\bfseries \pagelistname
\tabularnewline\midrule\endhead
\bottomrule\endfoot}%
```

Check for the `nogroupskip` package option. If there should be a gap between groups, insert the penalty and the vertical space. The check for `nogroupskip` should occur outside `\glsgroupskip` to be on the safe side.

```
\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else
\renewcommand*\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
```

`long4col-booktabs` The `long4col-booktabs` style is similar to the `long4colheader` style but uses the `booktabs` rules and patches `longtable` to check for group skip occurring at a page break.

```
\newglossarystyle{long4col-booktabs}{%
```



If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

Use the long4col style as a base.

```
\setglossarystyle{long4col}%
```

Add a header with rules.

```
\renewcommand*{\glossaryheader}{%
 \toprule \bfseries \entryname &
 \bfseries \descriptionname &
 \bfseries \symbolname &
 \bfseries \pagelistname
 \tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
```

Check for the nogroupskip package option. If there should be a gap between groups, insert the penalty and the vertical space. The check for nogroupskip should occur outside \glsgroupskip to be on the safe side.

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
```

**altlong4col-booktabs** The altlong4col-booktabs style is similar to the altlong4colheader style but uses the booktabs rules and patches longtable to check for group skip occurring at a page break.

```
\newglossarystyle{altlong4col-booktabs}{%
```

The patch \glspatchLToutput is already applied in long4col-booktabs and so doesn't need to be here.

```
\glspatchLToutput
```

Use the long4col-booktabs style as a base.

```
\setglossarystyle{long4col-booktabs}%
```

Change the column specifications:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glstdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
```

Ragged styles.

**longragged-booktabs** The longragged-booktabs style is similar to the longragged style but uses the booktabs rules and patches longtable to check for group skip occurring at a page break.

```
\newglossarystyle{longragged-booktabs}{%
```

If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

Use the long-booktabs style as a base.

```
\setglossarystyle{long-booktabs}%
```

Adjust the column specification.

```
\renewenvironment{theglossary}%
 {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}}}%
 {\end{longtable}}%
}
```

**longragged3col-booktabs** The longragged3col-booktabs style is similar to the longragged3col style but uses the booktabs rules and patches longtable to check for group skip occurring at a page break.

```
\newglossarystyle{longragged3col-booktabs}{%
```

If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

Use the long3col-booktabs style as a base.

```
\setglossarystyle{long3col-booktabs}%
```

Adjust the column specification.

```
\renewenvironment{theglossary}%
 {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
}
```

**altlongragged4col-booktabs** The altlongragged4col-booktabs style is similar to the altlongragged4col style but uses the booktabs rules and patches longtable to check for group skip occurring at a page break.

```
\newglossarystyle{altlongragged4col-booktabs}{%
```

If the style change is scoped, the patch will only have a local effect, which may be useful if it conflicts with other tables in the document.

```
\glspatchLToutput
```

Use the altlong4col-booktabs style as a base.

```
\setglossarystyle{altlong4col-booktabs}%
```

Adjust the column specification.

```
\renewenvironment{theglossary}%
 {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}1%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
}
```

```

\glsLTpenaltycheck
 \newcommand*{\glsLTpenaltycheck}{%
 \ifnum\outputpenalty=-50\vskip-\normalbaselineskip\relax\fi
 }

```

```

\glspenaltygroupskip
 \newcommand{\glspenaltygroupskip}{%
 \noalign{\penalty-50\vskip\normalbaselineskip}}

```

```

\glsrestoreLToutput Provide a way of restoring \LT@output for the user.
 \let\@gls@org@LT@output\LT@output
 \newcommand*{\glsrestoreLToutput}{\let\LT@output\@gls@org@LT@output}

```

This is David's patch, but I've replaced the hard-coded values with `\glsLTpenaltycheck` to make it easier to adjust.

```

\glspatchLToutput
 \newcommand*{\glspatchLToutput}{%
 \renewcommand*{\LT@output}{%
 \ifnum\outputpenalty <-\@Mi
 \ifnum\outputpenalty > -\LT@end@pen
 \LT@err{floats and marginpars not allowed in a longtable}\@ehc
 \else
 \setbox\z@\vbox{\unvbox\@cclv}%
 \ifdim \ht\LT@lastfoot>\ht\LT@foot
 \dimen@\pagegoal
 \advance\dimen@-\ht\LT@lastfoot
 \ifdim\dimen@<\ht\z@
 \setbox\@cclv\vbox{\unvbox\z@\copy\LT@foot\vss}%
 \@makecol
 \@outputpage
 \setbox\z@\vbox{\box\LT@head\glsLTpenaltycheck}%
 \fi
 \fi
 \global\@colroom\@colht
 \global\vsizel\@colht
 {\unvbox\z@\box\ifvoid\LT@lastfoot\LT@foot\else\LT@lastfoot\fi}%
 \fi
 \else
 \setbox\@cclv\vbox{\unvbox\@cclv\copy\LT@foot\vss}%
 \@makecol
 \@outputpage
 \global\vsizel\@colroom
 \copy\LT@head
 \glsLTpenaltycheck
 \nobreak
 \fi
 }%
 }

```

### 3.6 Glossary Styles using longtable (glossary-longragged.sty)

The glossary styles defined in the `glossary-longragged` package used the `longtable` environment in the `glossary` and use ragged right formatting for the multiline columns.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-longragged-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-longragged-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-longragged}[2024/11/01 v4.55 (NLCT)]
```

Requires the `array` package:

```
\RequirePackage{array}
```

Requires the `longtable` package:

```
\RequirePackage{longtable}
```

`\glsdescwidth` This is a length that governs the width of the description column. This may have already been defined.

```
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{}
```

`\glspagelistwidth` This is a length that governs the width of the page list column. This may already have been defined.

```
\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{}
```

`longragged` The `longragged` glossary style is like the `long` but uses ragged right formatting for the description column.

```
\newglossarystyle{longragged}{%
```

Use `longtable` with two columns:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{1>{\raggedright}p{glsdescwidth}}}%
 {\end{longtable}}%
```

Do nothing at the start of the environment:

```
\renewcommand*{\glossaryheader}{}%
```

No heading between groups:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries displayed in a row:

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
}%
```

Sub entries displayed on the following row without the name:

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}%
 \glspostdescription\space ##3%
 \tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{ & \tabularnewline}%
\fi
}
```

`longraggedborder` The `longraggedborder` style is like the above, but with horizontal and vertical lines:

```
\newglossarystyle{longraggedborder}{%
```

Base it on the `glostylelongragged` style:

```
\setglossarystyle{longragged}%
```

Use `longtable` with two columns with vertical lines between each column:

```
\renewenvironment{theglossary}{%
 \begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|}%
 {\end{longtable}}%
```

Place horizontal lines at the head and foot of the table:

```
\renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
```

`longraggedheader` The `longraggedheader` style is like the `longragged` style but with a header:

```
\newglossarystyle{longraggedheader}{%
```

Base it on the `glostylelongragged` style:

```
\setglossarystyle{longragged}%
```

Set the table's header:

```
\renewcommand*{\glossaryheader}{%
 \bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\endhead}%
}
```

`longraggedheaderborder` The `longraggedheaderborder` style is like the `longragged` style but with a header and border:

```
\newglossarystyle{longraggedheaderborder}{%
```

Base it on the `glostyplelongraggedborder` style:

```
\setglossarystyle{longraggedborder}{%
```

Set the table's header and add horizontal line to table's foot:

```
\renewcommand*{\glossaryheader}{%
 \hline\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\hline
 \endhead
 \hline\endfoot}%
}
```

`longragged3col` The `longragged3col` style is like `longragged` but with 3 columns

```
\newglossarystyle{longragged3col}{%
```

Use a `longtable` with 3 columns:

```
\renewenvironment{theglossary}{%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
```

No table header:

```
\renewcommand*{\glossaryheader}{}%
```

No headings between groups:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries on a row (name in first column, description in second column, page list in last column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
}%
```

Sub-entries on a separate row (no name, description in second column, page list in third column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
```

```

 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}

```

`longragged3colborder` The `longragged3colborder` style is like the `longragged3col` style but with a border:

```
\newglossarystyle{longragged3colborder}{%
```

Base it on the `glostylelongragged3col` style:

```
\setglossarystyle{longragged3col}%
```

Use a `longtable` with 3 columns with vertical lines around them:

```

\renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%

```

Place horizontal lines at the head and foot of the table:

```

\renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}

```

`longragged3colheader` The `longragged3colheader` style is like `longragged3col` but with a header row:

```
\newglossarystyle{longragged3colheader}{%
```

Base it on the `glostylelongragged3col` style:

```
\setglossarystyle{longragged3col}%
```

Set the table's header:

```

\renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}

```

`longragged3colheaderborder` The `longragged3colheaderborder` style is like the above but with a border

```
\newglossarystyle{longragged3colheaderborder}{%
```

Base it on the `glostylelongragged3colborder` style:

```
\setglossarystyle{longragged3colborder}%
```

Set the table's header and add horizontal line at table's foot:

```

\renewcommand*{\glossaryheader}{%
 \hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}

```

`altlongragged4col` The `altlongragged4col` style is like the `altlong4col` style defined in the `glossary-long` package, except that ragged right formatting is used for the description and page list columns.

```
\newglossarystyle{altlongragged4col}{%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}[1>{\raggedright}p{\glsdescwidth}1%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
```

No table header:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries on a single row (name in first column, description in second column, symbol in third column, page list in last column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & \glossentrysymbol{##1} &
 ##2\tabularnewline
}%
```

Sub entries on a single row with no name (description in second column, symbol in third column, page list in last column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
\fi
}
```

`altlongragged4colheader` The `altlongragged4colheader` style is like `altlongragged4col` but with a header row.

```
\newglossarystyle{altlongragged4colheader}{%
```

Base it on the `glostylealtlongragged4col` style:

```
\setglossarystyle{altlongragged4col}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}[1>{\raggedright}p{\glsdescwidth}1%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
```



Table has a header:

```
\renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
```

`altlongragged4colborder` The `altlongragged4colborder` style is like `altlongragged4col` but with a border.

```
\newglossarystyle{altlongragged4colborder}{%
```

Base it on the `glostylealtlongragged4col` style:

```
\setglossarystyle{altlongragged4col}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|l|}
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
```

Add horizontal lines to the head and foot of the table:

```
\renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
```

`altlongragged4colheaderborder` The `altlongragged4colheaderborder` style is like the above but with a header as well as a border.

```
\newglossarystyle{altlongragged4colheaderborder}{%
```

Base it on the `glostylealtlongragged4col` style:

```
\setglossarystyle{altlongragged4col}%
```

Use a `longtable` with 4 columns where the second and last columns may have multiple lines in each row:

```
\renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|l|}
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
```

Add table header and horizontal line at the table's foot:

```
\renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
```

### 3.7 Glossary Styles using `multicol` (`glossary-mcols.sty`)

The `glossary-mcols` style file defines glossary styles that use the `multicol` package. These use the tree-like glossary styles in a `multicol` environment.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-mcols-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-mcols-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-mcols}[2024/11/01 v4.55 (NLCT)]
```

Required packages:

```
\RequirePackage{multicol}
\RequirePackage{glossary-tree}
```

`\indexspace` There are a few classes that don't define `\indexspace`, so provide a definition if it hasn't been defined.

```
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
```

`\glsmcols` Define macro in which to store the number of columns. (Defaults to 2.)

```
\newcommand*{\glsmcols}{2}
```

`mcolindex` Multi-column index style. Same as the `index`, but puts the glossary in multiple columns. (Ideally the glossary title should go in the optional argument of `multicols`, but the title isn't part of the glossary style.)

```
\newglossarystyle{mcolindex}{%
 \setglossarystyle{index}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%

 \let\item\glstreeitem
 \let\subitem\glstreesubitem
 \let\subsubitem\glstreesubsubitem
 }%
 {\end{multicols}}%
}
```

`mcolindexgroup` As `mcolindex` but has headings:

```
\newglossarystyle{mcolindexgroup}{%
 \setglossarystyle{mcolindex}%
 \renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt{\glsgrouptitle{##1}}\indexspace}%
}
```

`mcolindexhypergroup` The `mcolindexhypergroup` style is like the `mcolindexgroup` style but has hyper navigation.

```
\newglossarystyle{mcolindexhypergroup}{%
```

Base it on the `glostylemcolindex` style:

```
\setglossarystyle{mcolindex}%
```

Put navigation links to the groups at the start of the glossary:

```
\renewcommand*{\glossaryheader}{%
 \item\glstreenavigationfmt{\glsnavigation}\indexspace}%
```

Add a heading for each group (with a target). The group's title is in bold followed by a vertical gap.

```
\renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
}
```

`mcolindexspannav` Similar to `mcolindexhypergroup`, but puts the navigation line in the optional argument of `multicols`.

```
\newglossarystyle{mcolindexspannav}{%
 \setglossarystyle{index}%
 \renewenvironment{theglossary}%
 {%

 \begin{multicols}{\glsncols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%

 \let\item\glstreeitem}%
 {\end{multicols}}}%
```

Add a heading for each group (with a target). The group's title is in bold followed by a vertical gap.

```
\renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
}
```

`mcoltree` Multi-column index style. Same as the tree, but puts the glossary in multiple columns.

```
\newglossarystyle{mcoltree}{%
 \setglossarystyle{tree}%
 \renewenvironment{theglossary}%
 {%

 \begin{multicols}{\glsncols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}
```

`mcoltreegroup` Like the `mcoltree` style but the glossary groups have headings.

```
\newglossarystyle{mcoltreegroup}{%
Base it on the glostylemcoltree style:
\setglossarystyle{mcoltree}%
Each group has a heading (in bold) followed by a vertical gap):
\renewcommand{\glsgroupheading}[1]{\par
\noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
```

`mcoltreehypergroup` The `mcoltreehypergroup` style is like the `treegroup` style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{mcoltreehypergroup}{%
Base it on the glostylemcoltree style:
\setglossarystyle{mcoltree}%
Put navigation links to the groups at the start of the theglossary environment:
\renewcommand*{\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
Each group has a heading (in bold with a target) followed by a vertical gap):
\renewcommand*{\glsgroupheading}[1]{%
\par\noindent
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}
```

`mcoltreesspannav` Similar to the `mcoltreehypergroup` style but the navigation line is put in the optional argument of the `multicols` environment.

```
\newglossarystyle{mcoltreesspannav}{%
\setglossarystyle{tree}%
\renewenvironment{theglossary}%
{%
\begin{multicols}{\glsncols}{\noindent\glstreenavigationfmt{\glsnavigation}]
\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
}%
{\end{multicols}}%
```

Each group has a heading (in bold with a target) followed by a vertical gap):

```
\renewcommand*{\glsgroupheading}[1]{%
\par\noindent
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}
```

`mcoltreename` Multi-column index style. Same as the `treename`, but puts the glossary in multiple columns.

```

\newglossarystyle{mcoltreename}{%
 \setglossarystyle{treename}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}

```

`mcoltreenamegroup` Like the `mcoltreename` style but the glossary groups have headings.

```

\newglossarystyle{mcoltreenamegroup}{%
Base it on the glostylemcoltreename style:
 \setglossarystyle{mcoltreename}%
Give each group a heading:
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}

```

`mcoltreenamehypergroup` The `mcoltreenamehypergroup` style is like the `mcoltreenamegroup` style, but has a set of links to the groups at the start of the glossary.

```

\newglossarystyle{mcoltreenamehypergroup}{%
Base it on the glostylemcoltreename style:
 \setglossarystyle{mcoltreename}%
Put navigation links to the groups at the start of the theglossary environment:
 \renewcommand*\glossaryheader{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
Each group has a heading (in bold with a target) followed by a vertical gap):
 \renewcommand*\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}

```

`mcoltreenamepannav` Similar to the `mcoltreenamehypergroup` style but the navigation line is put in the optional argument of the `multicols` environment.

```

\newglossarystyle{mcoltreenamepannav}{%
 \setglossarystyle{treename}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}

```

Each group has a heading (in bold with a target) followed by a vertical gap):

```
\renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
```

`mcolalmtree` Multi-column index style. Same as the `almtree`, but puts the glossary in multiple columns.

```
\newglossarystyle{mcolalmtree}{%
 \setglossarystyle{almtree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \def\@gls@prevlevel{-1}%
 \mbox{}\par
 }%
 {\par\end{multicols}}%
}
```

`mcolalmtreegroup` Like the `mcolalmtree` style but the glossary groups have headings.

```
\newglossarystyle{mcolalmtreegroup}{%
```

Base it on the `glostylemcolalmtree` style:

```
\setglossarystyle{mcolalmtree}%
```

Give each group a heading.

```
\renewcommand{\glsgroupheading}[1]{\par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
```

`mcolalmtreehypergroup` The `mcolalmtreehypergroup` style is like the `mcolalmtreegroup` style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{mcolalmtreehypergroup}{%
```

Base it on the `glostylemcolalmtree` style:

```
\setglossarystyle{mcolalmtree}%
```

Put the navigation links in the header

```
\renewcommand*{\glossaryheader}{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreenavigationfmt{\glsnavigation}\par\indexspace}%
}
```

Put a hypertarget at the start of each group

```
\renewcommand*{\glsgroupheading}[1]{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
```

`mcolalttreespannav` Similar to the `mcolalttreehypergroup` style but the navigation line is put in the optional argument of the `multicols` environment.

```
\newglossarystyle{mcolalttreespannav}{%
 \setglossarystyle{alttree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glscols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \def\@gls@prevlevel{-1}%
 \mbox{}\par
 }%
 {\par\end{multicols}}%
```

Put a hypertarget at the start of each group

```
\renewcommand*{\glsgroupheading}[1]{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
```

### 3.8 Glossary Styles using supertabular environment (`glossary-super.sty`)

The glossary styles defined in the `glossary-super` package use the `supertabular` environment.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-super-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-super-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-super}[2024/11/01 v4.55 (NLCT)]
```

Requires the `supertabular` package:

```
\RequirePackage{supertabular}
```

`\glsdescwidth` This is a length that governs the width of the description column. This may already have been defined if `glossary-long` has been loaded.

```
\@ifundefined{glsdescwidth}{%
 \newlength\glsdescwidth
 \setlength{\glsdescwidth}{0.6\hsize}
}{}
```

`\glspagelistwidth` This is a length that governs the width of the page list column. This may already have been defined if `glossary-long` has been loaded.

```
\@ifundefined{glspagelistwidth}{%
 \newlength\glspagelistwidth
 \setlength{\glspagelistwidth}{0.1\hsize}
}{}
```

`super` The super glossary style uses the `supertabular` environment (it uses lengths defined in the `glossary-long` package.)

```
\newglossarystyle{super}{%
```

Put the glossary in a `supertabular` environment with two columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}%
 \begin{supertabular}{lp{\glsdescwidth}}%
 {\end{supertabular}}%
```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgruppeheading}[1]{}%
```

Main (level 0) entries put in a row (name in first column, description and page list in second column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
}%
```

Sub entries put in a row (no name, description and page list in second column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
```



```

 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& \tabularnewline}%
 \fi
}

```

**superborder** The superborder style is like the above, but with horizontal and vertical lines:

```
\newglossarystyle{superborder}{%
```

Base it on the `glostylesuper` style:

```
\setglossarystyle{super}%
```

Put the glossary in a `supertabular` environment with two columns and a horizontal line in the head and tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|p{\glsdescwidth}|}%
 {\end{supertabular}}%
}

```

**superheader** The superheader style is like the `super` style, but with a header:

```
\newglossarystyle{superheader}{%
```

Base it on the `glostylesuper` style:

```
\setglossarystyle{super}%
```

Put the glossary in a `supertabular` environment with two columns, a header and no tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname &
 \bfseries \descriptionname \tabularnewline}%
 \tabletail{}%
 \begin{supertabular}{lp{\glsdescwidth}}%
 {\end{supertabular}}%
}

```

**superheaderborder** The superheaderborder style is like the `super` style but with a header and border:

```
\newglossarystyle{superheaderborder}{%
```

Base it on the `glostylesuper` style:

```
\setglossarystyle{super}%
```

Put the glossary in a `supertabular` environment with two columns, a header and horizontal lines above and below the table:

```

\renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname \tabularnewline \hline}%
 \tabletail{\hline}
 \begin{supertabular}{|l|p{\glsdescwidth}|}%
 {\end{supertabular}}%
}

```

`super3col` The `super3col` style is like the `super` style, but with 3 columns:

```
\newglossarystyle{super3col}{%
```

Put the glossary in a `supertabular` environment with three columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}}%
 \begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}%
 {\end{supertabular}}%
```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgrupheading}[1]{}%
```

Main (level 0) entries on a row (name in first column, description in second column, page list in last column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
}%
```

Sub entries on a row (no name, description in second column, page list in last column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
\fi
}
```

`super3colborder` The `super3colborder` style is like the `super3col` style, but with a border:

```
\newglossarystyle{super3colborder}{%
```

Base it on the `glostylesuper3col` style:

```
\setglossarystyle{super3col}%
```

Put the glossary in a `supertabular` environment with three columns and a horizontal line in the head and tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}}%
```

```

 \begin{supertabular}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
 }

```

**super3colheader** The `super3colheader` style is like the `super3col` style but with a header row:

```
\newglossarystyle{super3colheader}{%
```

Base it on the `glostylesuper3col` style:

```
\setglossarystyle{super3col}%
```

Put the glossary in a `supertabular` environment with three columns, a header and no tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline}\tabletail{}}%
 {\begin{supertabular}{|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}

```

**super3colheaderborder** The `super3colheaderborder` style is like the `super3col` style but with a header and border:

```
\newglossarystyle{super3colheaderborder}{%
```

Base it on the `glostylesuper3colborder` style:

```
\setglossarystyle{super3colborder}%
```

Put the glossary in a `supertabular` environment with three columns, a header with horizontal lines and a horizontal line in the tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}%
 {\tabletail{\hline}%
 {\begin{supertabular}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}

```

**super4col** The `super4col` glossary style has four columns, where the third column contains the value of the corresponding symbol key used when that entry was defined.

```
\newglossarystyle{super4col}{%
```

Put the glossary in a `supertabular` environment with four columns and no head or tail:

```

\renewenvironment{theglossary}%
 {\tablehead{} \tabletail{}}%
 {\begin{supertabular}{|l|l|l|l|}%
 {\end{supertabular}}%

```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*\glsgroupheading}[1]{}
```

Main (level 0) entries on a row with the name in the first column, description in second column, symbol in third column and page list in last column:

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} & ##2\tabularnewline
}%
```

Sub entries on a row with no name, the description in the second column, symbol in third column and page list in last column:

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip}{& & \tabularnewline}%
\fi
}
```

`super4colheader` The `super4colheader` style is like the `super4col` but with a header row.

```
\newglossarystyle{super4colheader}{%
```

Base it on the `glostylessuper4col` style:

```
\setglossarystyle{super4col}%
```

Put the glossary in a `supertabular` environment with four columns, a header and no tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline}%
 \tabletail{}%
 \begin{supertabular}{l111}}%
 {\end{supertabular}}%
}
```

`super4colborder` The `super4colborder` style is like the `super4col` but with a border.

```
\newglossarystyle{super4colborder}{%
```

Base it on the `glostylessuper4col` style:

```
\setglossarystyle{super4col}%
```

Put the glossary in a `supertabular` environment with four columns and a horizontal line in the head and tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|1|1|1|1|}%
 {\end{supertabular}}%
}
```

`super4colheaderborder` The `super4colheaderborder` style is like the `super4col` but with a header and border.

```
\newglossarystyle{super4colheaderborder}{%
```

Base it on the `glostylesuper4col` style:

```
\setglossarystyle{super4col}%
```

Put the glossary in a `supertabular` environment with four columns and a header bordered by horizontal lines and a horizontal line in the tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tablearnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}{|1|1|1|1|}%
 {\end{supertabular}}%
}
```

`altsuper4col` The `altsuper4col` glossary style is like `super4col` but has provision for multiline descriptions.

```
\newglossarystyle{altsuper4col}{%
```

Base it on the `glostylesuper4col` style:

```
\setglossarystyle{super4col}%
```

Put the glossary in a `supertabular` environment with four columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}\tabletail{}%
 \begin{supertabular}{lp{\glsdescwidth}lp{\glspagelistwidth}}%
 {\end{supertabular}}%
}
```

`altsuper4colheader` The `altsuper4colheader` style is like the `altsuper4col` but with a header row.

```
\newglossarystyle{altsuper4colheader}{%
```

Base it on the `glostylesuper4colheader` style:

```
\setglossarystyle{super4colheader}%
```

Put the glossary in a `supertabular` environment with four columns, a header and no tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
```

```

 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\tabletail{}%
 \begin{supertabular}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{supertabular}}%
 }

```

**altsuper4colborder** The `altsuper4colborder` style is like the `altsuper4col` but with a border.

```
\newglossarystyle{altsuper4colborder}{%
```

Base it on the `glostylesuper4colborder` style:

```
\setglossarystyle{super4colborder}{%
```

Put the glossary in a `supertabular` environment with four columns and a horizontal line in the head and tail:

```

 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}%
 {|l|p{\glsdescwidth}|l|p{\glspagelistwidth}|}}%
 {\end{supertabular}}%
}

```

**altsuper4colheaderborder** The `altsuper4colheaderborder` style is like the `altsuper4col` but with a header and border.

```
\newglossarystyle{altsuper4colheaderborder}{%
```

Base it on the `glostylesuper4colheaderborder` style:

```
\setglossarystyle{super4colheaderborder}{%
```

Put the glossary in a `supertabular` environment with four columns and a header bordered by horizontal lines and a horizontal line in the tail:

```

\renewenvironment{theglossary}%
{\tablehead{\hline
 \bfseries\entryname &
 \bfseries\descriptionname &
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
\tabletail{\hline}%
\begin{supertabular}%
{|l|p{\glsdescwidth}|l|p{\glspagelistwidth}|}}%
{\end{supertabular}}%
}

```

### 3.9 Glossary Styles using `supertabular` environment (`glossary-superragged.sty`)

The glossary styles defined in the `glossary-superragged` package use the `supertabular` environment. These styles are like those provided by the `glossary-super` package, except that the multiline columns have ragged right justification.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossary-superragged-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-superragged-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossary-superragged}[2024/11/01 v4.55 (NLCT)]
```

Requires the array package:

```
\RequirePackage{array}
```

Requires the supertabular package:

```
\RequirePackage{supertabular}
```

`\glsdescwidth` This is a length that governs the width of the description column. This may already have been defined.

```
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{}
```

`\glspagelistwidth` This is a length that governs the width of the page list column. This may already have been defined.

```
\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{}
```

`superragged` The superragged glossary style uses the supertabular environment.

```
\newglossarystyle{superragged}{%
```

Put the glossary in a supertabular environment with two columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}\tabletail{}%
 \begin{supertabular}{1>{\raggedright}p{\glsdescwidth}}%
 {\end{supertabular}}%
```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries put in a row (name in first column, description and page list in second column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
}%
```

Sub entries put in a row (no name, description and page list in second column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3%
 \tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& \tabularnewline}%
\fi
}
```

`superraggedborder` The `superraggedborder` style is like the above, but with horizontal and vertical lines:

```
\newglossarystyle{superraggedborder}{%
```

Base it on the `glostylesuperragged` style:

```
\setglossarystyle{superragged}%
```

Put the glossary in a `supertabular` environment with two columns and a horizontal line in the head and tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|}%
 {\end{supertabular}}%
}
```

`superraggedheader` The `superraggedheader` style is like the `super` style, but with a header:

```
\newglossarystyle{superraggedheader}{%
```

Base it on the `glostylesuperragged` style:

```
\setglossarystyle{superragged}%
```

Put the glossary in a `supertabular` environment with two columns, a header and no tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline}%
 \tabletail{}%
 \begin{supertabular}{l>{\raggedright}p{\glsdescwidth}}%
 {\end{supertabular}}%
}
```



`superraggedheaderborder` The `superraggedheaderborder` style is like the `superragged` style but with a header and border:

```
\newglossarystyle{superraggedheaderborder}{%
```

Base it on the `glostylesuper` style:

```
\setglossarystyle{superragged}%
```

Put the glossary in a `supertabular` environment with two columns, a header and horizontal lines above and below the table:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname\tabularnewline\hline}%
 \tabletail{\hline}
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|}%
 \end{supertabular}}%
}
```

`superragged3col` The `superragged3col` style is like the `superragged` style, but with 3 columns:

```
\newglossarystyle{superragged3col}{%
```

Put the glossary in a `supertabular` environment with three columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}\tabletail{}%
 \begin{supertabular}{|l>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}%
 \end{supertabular}}%
```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries on a row (name in first column, description in second column, page list in last column):

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 ##2\tabularnewline
}%
```

Sub entries on a row (no name, description in second column, page list in last column):

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```
\ifglsnogroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip}{& & \tabularnewline}%
\fi
}
```

`superragged3colborder` The `superragged3colborder` style is like the `superragged3col` style, but with a border:

```
\newglossarystyle{superragged3colborder}{%
```

Base it on the `glostylesuperragged3col` style:

```
\setglossarystyle{superragged3col}%
```

Put the glossary in a `supertabular` environment with three columns and a horizontal line in the head and tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}
```

`superragged3colheader` The `superragged3colheader` style is like the `superragged3col` style but with a header row:

```
\newglossarystyle{superragged3colheader}{%
```

Base it on the `glostylesuperragged3col` style:

```
\setglossarystyle{superragged3col}%
```

Put the glossary in a `supertabular` environment with three columns, a header and no tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline}\tabletail{}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}%
 {\end{supertabular}}%
}
```

`raggedright3colheaderborder` The `superragged3colheaderborder` style is like the `superragged3col` style but with a header and border:

```
\newglossarystyle{superragged3colheaderborder}{%
```

Base it on the `glostylesuperragged3colborder` style:

```
\setglossarystyle{superragged3colborder}%
```

Put the glossary in a supertabular environment with three columns, a header with horizontal lines and a horizontal line in the tail:

```
\renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}%
 \end{supertabular}}%
}
```

`altsuperragged4col` The `altsuperragged4col` glossary style is like `altsuper4col` style in the `glossary-super` package but uses ragged right formatting in the description and page list columns.

```
\newglossarystyle{altsuperragged4col}{%
```

Put the glossary in a supertabular environment with four columns and no head or tail:

```
\renewenvironment{theglossary}%
 {\tablehead{}\tabletail{}%
 \begin{supertabular}{|l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}|}%
 \end{supertabular}}%
```

Do nothing at the start of the table:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entries on a row with the name in the first column, description in second column, symbol in third column and page list in last column:

```
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} & ##2\tabularnewline
}%
```

Sub entries on a row with no name, the description in the second column, symbol in third column and page list in last column:

```
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
}%
```

Blank row between groups: The check for `nogroupskip` must occur outside `\glsgroupskip` (<http://www.dickimaw-books.com/cgi-bin/bugtracker.cgi?action=view&key=108>)

```

\ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
\fi
}

```

`altsuperragged4colheader` The `altsuperragged4colheader` style is like the `altsuperragged4col` style but with a header row.

```
\newglossarystyle{altsuperragged4colheader}{%
```

Base it on the `glostylealtsuperragged4col` style:

```
\setglossarystyle{altsuperragged4col}%
```

Put the glossary in a `supertabular` environment with four columns, a header and no tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tablearnewline}\tabletail{}}%
 {\begin{supertabular}{1>{\raggedright}p{\glsgdescwidth}1%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{supertabular}}%
}

```

`altsuperragged4colborder` The `altsuperragged4colborder` style is like the `altsuperragged4col` style but with a border.

```
\newglossarystyle{altsuperragged4colborder}{%
```

Base it on the `glostylealtsuperragged4col` style:

```
\setglossarystyle{altsuper4col}%
```

Put the glossary in a `supertabular` environment with four columns and a horizontal line in the head and tail:

```

\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}%
 {1|>{\raggedright}p{\glsgdescwidth}1|1%
 >{\raggedright}p{\glspagelistwidth}1}}%
 {\end{supertabular}}%
}

```

`superragged4colheaderborder` The `altsuperragged4colheaderborder` style is like the `altsuperragged4col` style but with a header and border.

```
\newglossarystyle{altsuperragged4colheaderborder}{%
```

Base it on the `glostylealtsuperragged4col` style:

```
\setglossarystyle{altsuperragged4col}%
```

Put the glossary in a `supertabular` environment with four columns and a header bordered by horizontal lines and a horizontal line in the tail:

```

\renewenvironment{theglossary}%
{
 \tablehead{\hline
 \bfseries\entryname &
 \bfseries\descriptionname &
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}%
 {1|>{\raggedright}p{\glsdescwidth}|1|}%
 >{\raggedright}p{\glspagelistwidth}|}%
 \end{supertabular}}%
}

```

### 3.10 Tree Styles (`glossary-tree.sty`)

The `glossary-tree` style file defines glossary styles that have a tree-like structure. These are designed for hierarchical glossaries.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```

\DeclareRelease{v4.46}{2020-03-19}{glossary-tree-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossary-tree-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}

```

Declare package:

```
\ProvidesPackage{glossary-tree}[2024/11/01 v4.55 (NLCT)]
```

`\indexspace` There are a few classes that don't define `\indexspace`, so provide a definition if it hasn't been defined.

```

\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}

```

`\glstreenamefmt` Format used to display the name in the tree styles. (This may be counteracted by `\glsnamefont`.) This command was previously also used to format the group headings.

```
\newcommand*{\glstreenamefmt}[1]{\textbf{#1}}
```

`\glstreegroupheaderfmt` Format used to display the group header in the tree styles. Before v4.22, `\glstreenamefmt` was used for the group header, so the default definition uses that to help maintain backward-compatibility, since in previous versions redefining `\glstreenamefmt` would've also affected the group headings.

```
\newcommand*{\glstreegroupheaderfmt}[1]{\glstreenamefmt{#1}}
```

`\glstreenavigationfmt` Format used to display the navigation header in the tree styles.

```
\newcommand*{\glstreenavigationfmt}[1]{\glstreenamefmt{#1}}
```

Allow the user to adjust the index style without disturbing the index.

`\glstreeitem` Top level item used in index style.

```
\ifdef\@idxitem
{\newcommand{\glstreeitem}{\@idxitem}}
{\newcommand{\glstreeitem}{\par\hangindent40\p@}}
```

`\glstreesubitem` Level 1 item used in index style.

```
\ifdef\subitem
{\let\glstreesubitem\subitem}
{\newcommand\glstreesubitem{\glstreeitem\hspace*{20\p@}}}
```

`\glstreesubsubitem` Level 1 item used in index style.

```
\ifdef\subsubitem
{\let\glstreesubsubitem\subsubitem}
{\newcommand\glstreesubsubitem{\glstreeitem\hspace*{30\p@}}}
```

`\glstreepredesc` Allow the user to adjust the space before the description (except for the `alttree` style).

```
\newcommand{\glstreepredesc}{\space}
```

`\glstreechildpredesc` Allow the user to adjust the space before the description for sub-entries (except for the `treenoname` and `alttree` style).

```
\newcommand{\glstreechildpredesc}{\space}
```

`index` The index glossary style is similar in style to the way indices are usually typeset using `\item`, `\subitem` and `\subsubitem`. The entry name is set in bold. If an entry has a symbol, it is placed in brackets after the name. Then the description is displayed, followed by the number list. This style allows up to three levels.

```
\newglossarystyle{index}{%
```

Set the paragraph indentation and skip and define `\item` to be the same as that used by `theindex`:

```
\renewenvironment{theglossary}%
{\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
\let\item\glstreeitem
\let\subitem\glstreesubitem
\let\subsubitem\glstreesubsubitem
}%
{\par}%
```

Do nothing at the start of the environment:

```
\renewcommand*{\glossaryheader}{}%
```

No group headers:

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Main (level 0) entry starts a new item with the name in bold followed by the symbol in brackets (if it exists), the description and the page list.

```
\renewcommand*{\glossentry}[2]{%
 \item\glstreeitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc \glossentrydesc{##1}\glspostdescription\space ##2%
}%
```

Sub entries: level 1 entries use `\subitem`, levels greater than 1 use `\subsubitem`. The level (`##1`) shouldn't be 0, as that's catered by `\glossentry`, but for completeness, if the level is 0, `\item` is used. The name is put in bold, followed by the symbol in brackets (if it exists), the description and the page list.

```
\renewcommand{\subglossentry}[3]{%
 \ifcase##1\relax
 % level 0
 \item
 \or
 % level 1
 \subitem
 \glssubentryitem{##2}%
 \else
 % all other levels
 \subsubitem
 \fi
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
 \ifglshassymbol{##2}{\space(\glossentrysymbol{##2})}{}%
 \glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3%
}%
```

Vertical gap between groups is the same as that used by indices:

```
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}}
```

**indexgroup** The `indexgroup` style is like the `index` style but has headings.

```
\newglossarystyle{indexgroup}{%
```

Base it on the `glostyleindex` style:

```
\setglossarystyle{index}%
```

Add a heading for each group. This puts the group's title in bold followed by a vertical gap.

```
\renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}%
 \indexspace
}%
}
```

**indexhypergroup** The `indexhypergroup` style is like the `indexgroup` style but has hyper navigation.

```
\newglossarystyle{indexhypergroup}{%
```

Base it on the `glostyleindex` style:

```
\setglossarystyle{index}%
```

Put navigation links to the groups at the start of the glossary:

```
\renewcommand*\glossaryheader}{%
 \item\glstreenavigationfmt{\glsnavigation}\indexspace}%
```

Add a heading for each group (with a target). The group's title is in bold followed by a vertical gap.

```
\renewcommand*\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
}
```

**tree** The tree glossary style is similar in style to the index style, but can have arbitrary levels.

```
\newglossarystyle{tree}{%
```

Set the paragraph indentation and skip:

```
\renewenvironment{theglossary}%
 {\setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}}%
 {}%
```

Do nothing at the start of the theglossary environment:

```
\renewcommand*\glossaryheader}{}%
```

No group headings:

```
\renewcommand*\glsgroupheading}[1]{}%
```

Main (level 0) entries: name in bold, followed by symbol in brackets (if it exists), the description and the page list:

```
\renewcommand{\glossentry}[2]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
}%
```

Sub entries: level  $\langle n \rangle$  is indented by  $\langle n \rangle$  times `\glstreeindent`. The name is in bold, followed by the symbol in brackets (if it exists), the description and the page list.

```
\renewcommand{\subglossentry}[3]{%
 \hangindent##1\glstreeindent\relax
 \parindent##1\glstreeindent\relax
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
 \ifglshassymbol{##2}{\space(\glossentrysymbol{##2})}{}%
 \glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3\par
}%
```



Vertical gap between groups is the same as that used by indices:

```
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}}
```

**treegroup** Like the tree style but the glossary groups have headings.

```
\newglossarystyle{treegroup}{%
```

Base it on the glostyletree style:

```
\setglossarystyle{tree}%
```

Each group has a heading (in bold) followed by a vertical gap):

```
\renewcommand{\glsgroupheading}[1]{\par
\noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par
\indexspace}%
}
```

**treehypergroup** The treehypergroup style is like the treegroup style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{treehypergroup}{%
```

Base it on the glostyletree style:

```
\setglossarystyle{tree}%
```

Put navigation links to the groups at the start of the theglossary environment:

```
\renewcommand*{\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
```

Each group has a heading (in bold with a target) followed by a vertical gap):

```
\renewcommand*{\glsgroupheading}[1]{%
\par\noindent
\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}
```

**\glstreeindent** Length governing left indent for each level of the tree style.

```
\newlength\glstreeindent
\setlength{\glstreeindent}{10pt}
```

**treenoname** The treenoname glossary style is like the tree style, but doesn't print the name or symbol for sub-levels.

```
\newglossarystyle{treenoname}{%
```

Set the paragraph indentation and skip:

```
\renewenvironment{theglossary}%
{\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}}%
{}
```

No header:

```
\renewcommand*{\glossaryheader}{}%
```

No group headings:

```
\renewcommand*\glsgroupheading}[1]{}
```

Main (level 0) entries: the name is in bold, followed by the symbol in brackets (if it exists), the description and the page list.

```
\renewcommand{\glossentry}[2]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
}%
```

Sub entries: level  $\langle n \rangle$  is indented by  $\langle n \rangle$  times `\glstreeindent`. The name and symbol are omitted. The description followed by the page list are displayed.

```
\renewcommand{\subglossentry}[3]{%
 \hangindent##1\glstreeindent\relax
 \parindent##1\glstreeindent\relax
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \glstarget{##2}{\strut}%
 \glossentrydesc{##2}\glspostdescription\space##3\par
}%
```

Vertical gap between groups is the same as that used by indices:

```
\renewcommand*\glsgroupskip{\ifglsnogroupskip\else\indexspace\fi}%
}
```

`treenonamegroup` Like the `treenoname` style but the glossary groups have headings.

```
\newglossarystyle{treenonamegroup}{%
```

Base it on the `glostyletreenoname` style:

```
\setglossarystyle{treenoname}%
```

Give each group a heading:

```
\renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt
 {\glsgetgrouptitle{##1}}\par\indexspace}%
}
```

`treenonamehypergroup` The `treenonamehypergroup` style is like the `treenonamegroup` style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{treenonamehypergroup}{%
```

Base it on the `glostyletreenoname` style:

```
\setglossarystyle{treenoname}%
```

Put navigation links to the groups at the start of the `theglossary` environment:

```
\renewcommand*\glossaryheader{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
```

Each group has a heading (in bold with a target) followed by a vertical gap):

```
\renewcommand*{\glsgroupeheading}[1]{%
 \par\noindent
 \glstreenameheaderfmt
 {\glslnavhypertarget{##1}{\glsgrouptitle{##1}}}\par
 \indexspace}%
}
```

`\glswidesttoplevelname` Find the widest name over all parentless entries in the given glossary or glossaries.

```
\newrobustcmd*{\glswidesttoplevelname}[1][\glo@types]{%
 \dimen@=0pt\relax
 \gls@tmplen=0pt\relax
 \forallglossaries[#1]{\gls@type}%
 {%
 \forallglsentries[\gls@type]{\glo@label}%
 {%
 \ifglshasparent{\glo@label}%
 {}%
 {%
 \glsmeasurewidth{\dimen@}%
 {\glstreenamefmt{\glsentryname{\glo@label}}}%
 \ifdim\dimen@>\gls@tmplen
 \gls@tmplen=\dimen@
 \letcs{\glswidestname}{glo@\glsdetoklabel{\glo@label}@name}%
 \fi
 }%
 }%
 }%
}
```

`\glsssetwidest` `\glsssetwidest[level]{text}` sets the widest text for the given level. It is used by the `alttree` glossary styles to determine the indentation of each level.

```
\newcommand*{\glsssetwidest}[2][0]{%
 \expandafter\def\csname @glswidestname\romannumeral#1\endcsname{%
 #2}%
}
```

`\@glswidestname` Initialise `\@glswidestname`.

```
\newcommand*{\@glswidestname}{}
```

`\glstreenamebox` Used by the `alttree` style to create the box for the name and associated information.

```
\newcommand*{\glstreenamebox}[2]{%
 \makebox[#1][l]{#2}%
}
```

`alttree` The `alttree` glossary style is similar in style to the `tree` style, but the indentation is obtained from the width of `\@glswidestname` which is set using `\glsssetwidest`.

```
\newglossarystyle{alttree}{%
```

Redefine theglossary environment.

```
\renewenvironment{theglossary}%
 {\def\@gls@prevlevel{-1}%
 \mbox{}\par}%
 {\par}%
```

Set the header and group headers to nothing.

```
\renewcommand*\glossaryheader{}%
\renewcommand*\glsgroupheading}[1]{}%
```

Redefine the way that the level 0 entries are displayed.

```
\renewcommand{\glossentry}[2]{%
 \ifnum\@gls@prevlevel=0\relax
 \else
```

Find out how big the indentation should be by measuring the widest entry.

```
 \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
 \fi
```

Set the hangindent and paragraph indent.

```
 \hangindent\glstreeindent
 \parindent\glstreeindent
```

Put the name to the left of the paragraph block.

```
 \makebox[0pt][r]{\glstreenamebox{\glstreeindent}{%
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}}%
 }
```

If the symbol is missing, ignore it, otherwise put it in brackets.

```
 \ifglshassymbol{##1}{(\glossentrysymbol{##1})\space}{}%
```

Do the description followed by the description terminator and location list.

```
 \glossentrydesc{##1}\glspostdescription \space ##2\par
```

Set the previous level to 0.

```
 \def\@gls@prevlevel{0}%
 }%
```

Redefine the way sub-entries are displayed.

```
\renewcommand{\subglossentry}[3]{%
```

Increment and display the sub-entry counter if this is a level 1 entry and the sub-entry counter is in use.

```
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
```

If the level hasn't changed, keep the same settings, otherwise adjust `\glstreeindent` accordingly.

```
 \ifnum\@gls@prevlevel=##1\relax
 \else
```

Compute the widest entry for this level, or for level 0 if not defined for this level.

Store in `\gls@tmplen`

```
\@ifundefined{@glswidestname\romannumeral##1}{%
 \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}{%
 \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
 \csname @glswidestname\romannumeral##1\endcsname\space}}}%
```

Determine if going up or down a level

```
\ifnum\@gls@prevlevel<##1\relax
```

Depth has increased, so add the width of the widest entry to `\glstreeindent`.

```
\setlength\glstreeindent\gls@tmplen
\addtolength\glstreeindent\parindent
\parindent\glstreeindent
\else
```

Depth has decreased, so subtract width of the widest entry from the previous level to `\glstreeindent`. First determine the width of the widest entry for the previous level and store in `\glstreeindent`.

```
\@ifundefined{@glswidestname\romannumeral\@gls@prevlevel}{%
 \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
 \@glswidestname\space}}{%
 \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
 \csname @glswidestname\romannumeral\@gls@prevlevel
 \endcsname\space}}}%
```

Subtract this length from the previous level's paragraph indent and set to `\glstreeindent`.

```
\addtolength\parindent{-\glstreeindent}%
\setlength\glstreeindent\parindent
\fi
\fi
```

Set the hanging indentation.

```
\hangindent\glstreeindent
```

Put the name to the left of the paragraph block

```
\makebox[Opt][r]{\glstreenamebox{\gls@tmplen}{%
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}}}%
```

If the symbol is missing, ignore it, otherwise put it in brackets.

```
\ifglshassymbol{##2}{(\glossentrysymbol{##2})\space}{}%
```

Do the description followed by the description terminator and location list.

```
\glossentrydesc{##2}\glspostdescription\space ##3\par
```

Set the previous level macro to the current level.

```
\def\@gls@prevlevel{##1}%
}%
```

Vertical gap between groups is the same as that used by indices:

```
\renewcommand*{\glsgroupskip}{\ifglsgroupskip\else\indexspace\fi}%
}
```

`almtreegroup` Like the `almtree` style but the glossary groups have headings.

```
\newglossarystyle{almtreegroup}{%
Base it on the glostylealmtree style:
\setglossarystyle{almtree}%
Give each group a heading.
\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}%
\par\indexspace}%
}
```

`almtreehypergroup` The `almtreehypergroup` style is like the `almtreegroup` style, but has a set of links to the groups at the start of the glossary.

```
\newglossarystyle{almtreehypergroup}{%
Base it on the glostylealmtree style:
\setglossarystyle{almtree}%
Put the navigation links in the header
\renewcommand*{\glossaryheader}{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
Put a hypertarget at the start of each group
\renewcommand*{\glsgroupheading}[1]{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}}
```

## 4 Multi-Lingual Support

### 4.1 Babel Captions (`glossaries-babel.sty`)

Many thanks to everyone who contributed to the translations both via email and on `comp.text.tex`. Language support has now been split off into independent language modules.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-babel-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-babel-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package

```
\ProvidesPackage{glossaries-babel}[2024/11/01 v4.55 (NLCT)]
```

Load tracklang to obtain language settings.

```
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
```

Check for tracked languages:

```
\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 }%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for ‘\this@dialect’.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 ‘glossaries-\CurrentTrackedLanguage’ or similar}%
}%
}%
{}
```

## 4.2 Polyglossia Captions (glossaries-polyglossia.sty)

Language support has now been split off into independent language modules.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-polyglossia-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-polyglossia-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package

```
\ProvidesPackage{glossaries-polyglossia}[2024/11/01 v4.55 (NLCT)]
```

Load tracklang to obtain language settings.

```
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
```

Check for tracked languages:

```
\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 }%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for ‘\this@dialect’.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 ‘glossaries-CurrentTrackedLanguage’ or similar}%
}%
}%
{}
```

## 5 Prefix Support (glossaries-prefix Code)

This package provides a means of adding prefixes to your glossary entries. For example, you may want to use “a \gls{*label*}” on first use but use “an \gls{*label*}” on subsequent use.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-prefix-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-prefix-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Declare package:

```
\ProvidesPackage{glossaries-prefix}[2024/11/01 v4.55 (NLCT)]
```

Pass all options to glossaries:

```
\DeclareOption*{\PassOptionsToPackage{\CurrentOption}{glossaries}}
```

Process options:

```
\ProcessOptions
```

Load glossaries:

```
\RequirePackage{glossaries}
```

Add the new keys:

```
\define@key{glossentry}{prefixfirst}{\def\@glo@entryprefixfirst{#1}}%
\define@key{glossentry}{prefixfirstplural}{\def\@glo@entryprefixfirstplural{#1}}%
\define@key{glossentry}{prefix}{\def\@glo@entryprefix{#1}}%
\define@key{glossentry}{prefixplural}{\def\@glo@entryprefixplural{#1}}%
```



Add them to \@gls@keymap:

```
\appto\@gls@keymap{,%
 {prefixfirst}{prefixfirst},%
 {prefixfirstplural}{prefixfirstplural},%
 {prefix}{prefix},%
 {prefixplural}{prefixplural}%
}
```

Set the default values:

```
\appto\@newglossaryentryprehook{%
 \def\@glo@entryprefix{%
 \def\@glo@entryprefixplural{%
 \let\@glo@entryprefixfirst\@gls@default@value
 \let\@glo@entryprefixfirstplural\@gls@default@value
}
```

Set the assignment code:

```
\appto\@newglossaryentryposthook{%
 \gls@assign@field{}\@glo@label}{prefix}\@glo@entryprefix}%
 \gls@assign@field{}\@glo@label}{prefixplural}\@glo@entryprefixplural}%
```

If prefixfirst has not been supplied, make it the same as prefix.

```
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @prefix\endcsname}\@glo@label}{prefixfirst}%
 {\@glo@entryprefixfirst}%
```

If prefixfirstplural has not been supplied, make it the same as prefixplural.

```
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @prefixplural\endcsname}\@glo@label}%
 {prefixfirstplural}\@glo@entryprefixfirstplural}%
}
```

Define commands to access these fields:

\glsentryprefixfirst

```
\newcommand*\glsentryprefixfirst[1]{\csuse{glo\glsdetoklabel{#1}@prefixfirst}}
```

\glsentryprefixfirstplural

```
\newcommand*\glsentryprefixfirstplural[1]{%
 \csuse{glo\glsdetoklabel{#1}@prefixfirstplural}}
```

\glsentryprefix

```
\newcommand*\glsentryprefix[1]{\csuse{glo\glsdetoklabel{#1}@prefix}}
```

\glsentryprefixplural

```
\newcommand*\glsentryprefixplural[1]{\csuse{glo\glsdetoklabel{#1}@prefixplural}}
```

Now for the initial upper case variants:

\Glsentryprefixfirst

```
\newcommand*\Glsentryprefixfirst[1]{%
 \@Glsentryfield{#1}{prefixfirst}%
}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glentryprefixfirst}{\Glentryprefixfirst}
```

\Glentryprefixfirstplural

```
\newcommand*{\Glentryprefixfirstplural}[1]{%
 \@Glentryfield{#1}{prefixfirstplural}%
}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glentryprefixfirstplural}{\Glentryprefixfirstplural}
```

\Glentryprefix

```
\newcommand*{\Glentryprefix}[1]{%
 \@Glentryfield{#1}{prefix}%
}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glentryprefix}{\Glentryprefix}
```

\Glentryprefixplural

```
\newcommand*{\Glentryprefixplural}[1]{%
 \@Glentryfield{#1}{prefixplural}%
}
```

Add sentence case mapping.

```
\glsmfuaddmap{\glentryprefixplural}{\Glentryprefixplural}
```

Define commands to determine if the prefix keys have been set:

\ifglshasprefix

```
\newcommand*{\ifglshasprefix}[3]{%
 \ifcempty{glo@\glsetoklabel{#1}@prefix}%
 {#3}%
 {#2}%
}
```

\ifglshasprefixplural

```
\newcommand*{\ifglshasprefixplural}[3]{%
 \ifcempty{glo@\glsetoklabel{#1}@prefixplural}%
 {#3}%
 {#2}%
}
```

\ifglshasprefixfirst

```
\newcommand*{\ifglshasprefixfirst}[3]{%
 \ifcempty{glo@\glsetoklabel{#1}@prefixfirst}%
 {#3}%
 {#2}%
}
```

`\ifglshasprefixfirstplural`

```
\newcommand*{\ifglshasprefixfirstplural}[3]{%
 \ifcempty{glo@\glsdetoklabel{#1}@prefixfirstplural}%
 {#3}%
 {#2}%
}
```

`\@glsprefix@record@hook` Need to take into account the possibility that glossaries-extra might be loaded with the record option.

```
\providecommand{\@glsprefix@record@hook}[2]{%
 \ifdef\@glsxtr@record
 {\@glsxtr@record{#1}{#2}{\glslink}}%
 {}%
}
```

`\glsprefixsep` Separator between prefix and term. Does nothing by default.

```
\newcommand{\glsprefixsep}{}
```

Define commands that insert the prefix before commands like `\gls`:

`\pgls`

```
\newrobustcmd{\pgls}{\@gls@hyp@opt\@pgls}
```

`\@pgls` Unstarred version.

```
\newcommand*{\@pgls}[2][{}]{%
 \new@ifnextchar[%
 {\@pgls@{#1}{#2}}%
 {\@pgls@{#1}{#2}[]}%
}
```

`\@pgls@` Read in the final optional argument:

```
\def\@pgls@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglused{#2}%
 {%
 \ifglshasprefix{#2}{\glsentryprefix{#2}\glsprefixsep}{}%
 }%
 {\ifglshasprefixfirst{#2}{\glsentryprefixfirst{#2}\glsprefixsep}{}%
 }%
 }%
 \@gls@{#1}{#2}[#3}%
}
```

Similarly for the plural version:

```
\pglsp1
\newrobustcmd{\pglsp1}{\@gls@hyp@opt\@pglsp1}
```

\@pglsp1 Unstarred version.

```
\newcommand*{\@pglsp1}[2][{}]{%
\new@ifnextchar[%
{\@pglsp1@{#1}{#2}}%
{\@pglsp1@{#1}{#2}[]}%
}
```

\@pglsp1@ Read in the final optional argument:

```
\def\@pglsp1@#1#2[#3]{%
\@glsprefix@record@hook{#1}{#2}%
\glsdoifexists{#2}%
{%
\ifglsused{#2}%
{%
\ifgls@hasprefixplural{#2}{\glsentryprefixplural{#2}\glsprefixsep}{}%
}%
{%
\ifgls@hasprefixfirstplural{#2}%
{\glsentryprefixfirstplural{#2}\glsprefixsep}{}%
}%
\@glspl@{#1}{#2}[#3]%
}%
}
```

Now for the first letter upper case versions:

```
\PglS
\newrobustcmd{\PglS}{\@gls@hyp@opt\@PglS}
```

Add sentence case mapping.

```
\glsmfuaddmap{\pgls}{\PglS}
```

\@PglS Unstarred version.

```
\newcommand*{\@PglS}[2][{}]{%
\new@ifnextchar[%
{\@PglS@{#1}{#2}}%
{\@PglS@{#1}{#2}[]}%
}
```

\@PglS@ Read in the final optional argument:

```
\def\@PglS@#1#2[#3]{%
\@glsprefix@record@hook{#1}{#2}%
\glsdoifexists{#2}%
{%
\ifglsused{#2}%
}
```

```

{%
 \ifglshasprefix{#2}%
 {%
 \Glentryprefix{#2}%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]%
 }%
 {\@Gls@{#1}{#2}[#3]}%
}%
{%
 \ifglshasprefixfirst{#2}%
 {%
 \Glentryprefixfirst{#2}%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]%
 }%
 {\@Gls@{#1}{#2}[#3]}%
}%
}%
}

```

Similarly for the plural version:

```

\@Pglsp1
\newrobustcmd{\@Pglsp1}{\@gls@hyp@opt\@Pglsp1}

```

Add sentence case mapping.

```

\glsmfuaddmap{\@Pglsp1}{\@Pglsp1}

```

\@Pglsp1 Unstarred version.

```

\newcommand*{\@Pglsp1}[2][{}]{%
 \new@ifnextchar[%
 {\@Pglsp1@{#1}{#2}}%
 {\@Pglsp1@{#1}{#2}[{}]}%
}

```

\@Pglsp1@ Read in the final optional argument:

```

\def\@Pglsp1@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglshasprefixplural{#2}%
 {%
 \Glentryprefixplural{#2}%
 \glsprefixsep
 \@glspl@{#1}{#2}[#3]%
 }%
 }%
 }%
}

```

```

 {\@Glspl@{#1}{#2}[#3]}%
 }%
 {%
 \ifglshasprefixfirstplural{#2}%
 {%
 \Glsentryprefixfirstplural{#2}%
 \glsprefixsep
 \@glspl@{#1}{#2}[#3]%
 }%
 {\@Glspl@{#1}{#2}[#3]}%
 }%
}
}

```

Finally the all upper case versions:

```

\PGLS
\newrobustcmd{\PGLS}{\@gls@hyp@opt\@PGLS}

```

\@PGLS Unstarred version.

```

\newcommand*{\@PGLS}[2] [] {%
 \new@ifnextchar [%
 {\@PGLS@{#1}{#2}}%
 {\@PGLS@{#1}{#2} []}%
 }
}

```

\@PGLS@ Read in the final optional argument:

```

\def \@PGLS@#1#2[#3] {%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglshasprefix{#2}%
 {\glsuppercase{\glsentryprefix{#2}\glsprefixsep}}{%
 }%
 }%
 {%
 \ifglshasprefixfirst{#2}%
 {\glsuppercase{\glsentryprefixfirst{#2}\glsprefixsep}}{%
 }%
 }%
 \@GLS@{#1}{#2}[#3]%
 }%
}
}

```

Plural version:

```

\PGLSpl
\newrobustcmd{\PGLSpl}{\@gls@hyp@opt\@PGLSpl}

```

`\@PGLSp1` Unstarred version.

```
\newcommand*{\@PGLSp1}[2][]{%
 \new@ifnextchar[%
 {\@PGLSp1@{#1}{#2}}%
 {\@PGLSp1@{#1}{#2}[]}%
}
```

`\@PGLSp1@` Read in the final optional argument:

```
\def\@PGLSp1@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \@glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglschasprefixplural{#2}%
 {\glsuppercase{\glsentryprefixplural{#2}\glsprefixsep}}{%
 }%
 }%
 \ifglschasprefixfirstplural{#2}%
 {\glsuppercase{\glsentryprefixfirstplural{#2}\glsprefixsep}}{%
 }%
 }%
 \@GLSp1@{#1}{#2}[#3]%
}%
}
```

## 6 Accessibility Support (glossaries-accsupp Code)

The `glossaries-accsupp` package is experimental. It is intended to provide a means of using the PDF accessibility support in glossary entries. See the `accsupp` documentation for further details about accessibility support.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-accsupp-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-accsupp-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Package version number now in line with main `glossaries` package number.

```
\ProvidesPackage{glossaries-accsupp}[2024/11/01 v4.55 (NLCT)
 Experimental glossaries accessibility]
```

Pass all options to `glossaries`:

```
\DeclareOption*{\PassOptionsToPackage{\CurrentOption}{glossaries}}
```

Process options:

```
\ProcessOptions
```

This package should be loaded before `glossaries-extra`, so complain if that has already been loaded.

```
\@ifpackageloaded{glossaries-extra}
{%
```

If the `accsupp` option was used, `\@glsxtr@doaccsupp` will have been set, otherwise it will be empty.

```
\ifx\@glsxtr@doaccsupp\empty
 \GlossariesWarning{The ‘glossaries-accsupp’
package has been loaded\MessageBreak
after the ‘glossaries-extra’ package. This\MessageBreak
can cause a failure to integrate both packages. \MessageBreak
Either use the ‘accsupp’ option when you load\MessageBreak
‘glossaries-extra’ or load ‘glossaries-accsupp’\MessageBreak
before loading ‘glossaries-extra’}%
\fi
}
{}
```

`\compatibleglossentry` Override style compatibility macros:

`\compatiblesubglossentry`

Required packages:

```
\RequirePackage{glossaries}
```

`\gls@accsupp@engine` There’s currently only support for `accsupp`, but if you define `\gls@accsupp@engine` before loading `glossaries-accsupp`, you can prevent `accsupp` from being loaded. Redefining this command after `glossaries-accsupp` has loaded obviously won’t do anything (and so is an internal command to deter casual use). If it is defined to something other than `accsupp` then `\gls@accessibility` will need to be defined to something appropriate.

```
\providecommand{\gls@accsupp@engine}{accsupp}
```

```
\gls@accessibility[<options>]{<PDF element>}{<value>}
{<content>}
```

`\gls@accessibility`

```
\providecommand{\gls@accessibility}[4]{#4}
\ifdefstring\gls@accsupp@engine{accsupp}
{
 \RequirePackage{accsupp}
 \renewcommand{\gls@accessibility}[4]{%
 \BeginAccSupp{#1,#2={#3}}#4\EndAccSupp{}}%
 }
}
{}
```

```
\glsaccessibility[<options>]{<PDF element>}{<value>}
{<content>}
```

`\glsaccessibility`



User-level command that includes debug info if required.

```
\newcommand{\glsaccessibility}[4] []{%
 \glsshowaccsupp{#1}{#2}{#3}%
 \gls@accessibility{#1}{#2}{#3}{#4}%
}
```

## 6.1 Defining Replacement Text

The version 0.1 stored the replacement text in the symbol key. This has been changed to use the new keys defined here. Example of use:

```
%\newglossaryentry{dr}{name=Dr,description={},access={Doctor}}
%
```

**access** The replacement text corresponding to the name key:

```
\define@key{glossentry}{access}{%
 \def\@glo@access{#1}%
}
```

**textaccess** The replacement text corresponding to the text key:

```
\define@key{glossentry}{textaccess}{%
 \def\@glo@textaccess{#1}%
}
```

**firstaccess** The replacement text corresponding to the first key:

```
\define@key{glossentry}{firstaccess}{%
 \def\@glo@firstaccess{#1}%
}
```

**pluralaccess** The replacement text corresponding to the plural key:

```
\define@key{glossentry}{pluralaccess}{%
 \def\@glo@pluralaccess{#1}%
}
```

**firstpluralaccess** The replacement text corresponding to the firstplural key:

```
\define@key{glossentry}{firstpluralaccess}{%
 \def\@glo@firstpluralaccess{#1}%
}
```

**symbolaccess** The replacement text corresponding to the symbol key:

```
\define@key{glossentry}{symbolaccess}{%
 \def\@glo@symbolaccess{#1}%
}
```

**symbolpluralaccess** The replacement text corresponding to the symbolplural key:

```
\define@key{glossentry}{symbolpluralaccess}{%
 \def\@glo@symbolpluralaccess{#1}%
}
```

**descriptionaccess** The replacement text corresponding to the description key:

```
\define@key{glossentry}{descriptionaccess}{%
 \def\@glo@descaccess{#1}%
}
```

**descriptionpluralaccess** The replacement text corresponding to the descriptionplural key:

```
\define@key{glossentry}{descriptionpluralaccess}{%
 \def\@glo@descpluralaccess{#1}%
}
```

**shortaccess** The replacement text corresponding to the short key:

```
\define@key{glossentry}{shortaccess}{%
 \def\@glo@shortaccess{#1}%
}
```

**shortpluralaccess** The replacement text corresponding to the shortplural key:

```
\define@key{glossentry}{shortpluralaccess}{%
 \def\@glo@shortpluralaccess{#1}%
}
```

**longaccess** The replacement text corresponding to the long key:

```
\define@key{glossentry}{longaccess}{%
 \def\@glo@longaccess{#1}%
}
```

**longpluralaccess** The replacement text corresponding to the longplural key:

```
\define@key{glossentry}{longpluralaccess}{%
 \def\@glo@longpluralaccess{#1}%
}
```

There are now also keys that correspond to the user keys:

**user1access** The replacement text corresponding to the user1 key:

```
\define@key{glossentry}{user1access}{%
 \def\@glo@useriaccess{#1}%
}
```

**user2access** The replacement text corresponding to the user2 key:

```
\define@key{glossentry}{user2access}{%
 \def\@glo@useriiaccess{#1}%
}
```

**user3access** The replacement text corresponding to the user3 key:

```
\define@key{glossentry}{user3access}{%
 \def\@glo@useriiiaccess{#1}%
}
```

`user4access` The replacement text corresponding to the `user4` key:

```
\define@key{glossentry}{user4access}{%
 \def\@glo@userivaccess{#1}%
}
```

`user5access` The replacement text corresponding to the `user5` key:

```
\define@key{glossentry}{user5access}{%
 \def\@glo@uservaccess{#1}%
}
```

`user6access` The replacement text corresponding to the `user6` key:

```
\define@key{glossentry}{user6access}{%
 \def\@glo@userviaccess{#1}%
}
```

For any custom keys, the replacement text would have to be explicitly put in the value, e.g., `user1={\glsshortaccsupp{inches}{in}}`.

Append these new keys to `\@gls@keymap`:

```
\appto\@gls@keymap{,%
 {access}{access},%
 {textaccess}{textaccess},%
 {firstaccess}{firstaccess},%
 {pluralaccess}{pluralaccess},%
 {firstpluralaccess}{firstpluralaccess},%
 {symbolaccess}{symbolaccess},%
 {symbolpluralaccess}{symbolpluralaccess},%

 {descriptionaccess}{descaccess},%
 {descriptionpluralaccess}{descpluralaccess},%
 {shortaccess}{shortaccess},%
 {shortpluralaccess}{shortpluralaccess},%
 {longaccess}{longaccess},%
 {longpluralaccess}{longpluralaccess},%
 {user1access}{useriaccess},%
 {user2access}{useriiaccess},%
 {user3access}{useriiiaccess},%
 {user4access}{userivaccess},%
 {user5access}{uservaccess},%
 {user6access}{userviaccess}%
}
```

`\@gls@noaccess` Indicates that no replacement text has been provided.

```
\def\@gls@noaccess{\relax}
```

Previously, the access key was initialised to the value of the `symbol` key at the start for backwards compatibility. This causes a problem for situations where the replacement text is provided for `symbol` but not for `name` so this behaviour has been removed.

```
\let\@gls@oldnewglossaryentryprehook\@newglossaryentryprehook
```

```

\renewcommand*{\@newglossaryentryprehook}{%
 \@gls@oldnewglossaryentryprehook
 \def\@glo@access{\relax}%

```

Initialise the other keys:

```

\def\@glo@textaccess{\@glo@access}%
\def\@glo@firstaccess{\@glo@access}%
\def\@glo@pluralaccess{\@glo@textaccess}%
\def\@glo@firstpluralaccess{\@glo@pluralaccess}%
\def\@glo@symbolaccess{\relax}%
\def\@glo@symbolpluralaccess{\@glo@symbolaccess}%
\def\@glo@descaccess{\relax}%
\def\@glo@descpluralaccess{\@glo@descaccess}%
\def\@glo@shortaccess{\relax}%
\def\@glo@shortpluralaccess{\@glo@shortaccess}%
\def\@glo@longaccess{\relax}%
\def\@glo@longpluralaccess{\@glo@longaccess}%
\def\@glo@useriaccess{\relax}%
\def\@glo@useriiaaccess{\relax}%
\def\@glo@useriiaaaccess{\relax}%
\def\@glo@userivaccess{\relax}%
\def\@glo@uservaccess{\relax}%
\def\@glo@userviaccess{\relax}%
}

```

Add to the end hook:

```

\let\@gls@oldnewglossaryentryposthook\@newglossaryentryposthook
\renewcommand*{\@newglossaryentryposthook}{%
 \@gls@oldnewglossaryentryposthook

```

Store the access information:

```

\expandafter
 \protected@xdef\csname glo@\@glo@label @access\endcsname{%
 \@glo@access}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @textaccess\endcsname{%
 \@glo@textaccess}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @firstaccess\endcsname{%
 \@glo@firstaccess}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @pluralaccess\endcsname{%
 \@glo@pluralaccess}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @firstpluralaccess\endcsname{%
 \@glo@firstpluralaccess}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @symbolaccess\endcsname{%
 \@glo@symbolaccess}%
\expandafter
 \protected@xdef\csname glo@\@glo@label @symbolpluralaccess\endcsname{%

```

```

 \@glo@symbolpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @descaccess\endcsname{%
 \@glo@descaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @descpluralaccess\endcsname{%
 \@glo@descpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @shortaccess\endcsname{%
 \@glo@shortaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @shortpluralaccess\endcsname{%
 \@glo@shortpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @longaccess\endcsname{%
 \@glo@longaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @longpluralaccess\endcsname{%
 \@glo@longpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriaccess\endcsname{%
 \@glo@useriaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriiaccess\endcsname{%
 \@glo@useriiaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriiiaccess\endcsname{%
 \@glo@useriiiaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @userivaccess\endcsname{%
 \@glo@userivaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @uservaccess\endcsname{%
 \@glo@uservaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @userviaccess\endcsname{%
 \@glo@userviaccess}%
}

```

## 6.2 Accessing Replacement Text

`\glsentryaccess` Get the value of the access key for the entry with the given label:

```

\newcommand*{\glsentryaccess}[1]{%
 \@gls@entry@field{#1}{access}%
}

```

`\glsentrytextaccess` Get the value of the textaccess key for the entry with the given label:

```

\newcommand*{\glsentrytextaccess}[1]{%
 \@gls@entry@field{#1}{textaccess}%
}

```

}

`\glsentryfirstaccess` Get the value of the `firstaccess` key for the entry with the given label:

```
\newcommand*{\glsentryfirstaccess}[1]{%
 \@gls@entry@field{#1}{firstaccess}%
}
```

`\glsentrypluralaccess` Get the value of the `pluralaccess` key for the entry with the given label:

```
\newcommand*{\glsentrypluralaccess}[1]{%
 \@gls@entry@field{#1}{pluralaccess}%
}
```

`\glsentryfirstpluralaccess` Get the value of the `firstpluralaccess` key for the entry with the given label:

```
\newcommand*{\glsentryfirstpluralaccess}[1]{%
 \@gls@entry@field{#1}{firstpluralaccess}%
}
```

`\glsentrysymbolaccess` Get the value of the `symbolaccess` key for the entry with the given label:

```
\newcommand*{\glsentrysymbolaccess}[1]{%
 \@gls@entry@field{#1}{symbolaccess}%
}
```

`\glsentrysymbolpluralaccess` Get the value of the `symbolpluralaccess` key for the entry with the given label:

```
\newcommand*{\glsentrysymbolpluralaccess}[1]{%
 \@gls@entry@field{#1}{symbolpluralaccess}%
}
```

`\glsentrydescaccess` Get the value of the `descriptionaccess` key for the entry with the given label:

```
\newcommand*{\glsentrydescaccess}[1]{%
 \@gls@entry@field{#1}{descaccess}%
}
```

`\glsentrydescpluralaccess` Get the value of the `descriptionpluralaccess` key for the entry with the given label:

```
\newcommand*{\glsentrydescpluralaccess}[1]{%
 \@gls@entry@field{#1}{descpluralaccess}%
}
```

`\glsentryshortaccess` Get the value of the `shortaccess` key for the entry with the given label:

```
\newcommand*{\glsentryshortaccess}[1]{%
 \@gls@entry@field{#1}{shortaccess}%
}
```

`\glsentryshortpluralaccess` Get the value of the `shortpluralaccess` key for the entry with the given label:

```
\newcommand*{\glsentryshortpluralaccess}[1]{%
 \@gls@entry@field{#1}{shortpluralaccess}%
}
```

`\glentrylongaccess` Get the value of the `longaccess` key for the entry with the given label:

```

\newcommand*{\glentrylongaccess}[1]{%
 \@gls@entry@field{#1}{longaccess}%
}

```

`\glentrylongpluralaccess` Get the value of the `longpluralaccess` key for the entry with the given label:

```

\newcommand*{\glentrylongpluralaccess}[1]{%
 \@gls@entry@field{#1}{longpluralaccess}%
}

```

`\glentryuseriaccess` Get the value of the `user1access` key for the entry with the given label:

```

\newcommand*{\glentryuseriaccess}[1]{%
 \@gls@entry@field{#1}{useriaccess}%
}

```

`\glentryuseriiaccess` Get the value of the `user2access` key for the entry with the given label:

```

\newcommand*{\glentryuseriiaccess}[1]{%
 \@gls@entry@field{#1}{useriiaccess}%
}

```

`\glentryuseriiiaccess` Get the value of the `user3access` key for the entry with the given label:

```

\newcommand*{\glentryuseriiiaccess}[1]{%
 \@gls@entry@field{#1}{useriiiaccess}%
}

```

`\glentryuserivaccess` Get the value of the `user4access` key for the entry with the given label:

```

\newcommand*{\glentryuserivaccess}[1]{%
 \@gls@entry@field{#1}{userivaccess}%
}

```

`\glentryuservaccess` Get the value of the `user5access` key for the entry with the given label:

```

\newcommand*{\glentryuservaccess}[1]{%
 \@gls@entry@field{#1}{uservaccess}%
}

```

`\glentryuserviaccess` Get the value of the `user6access` key for the entry with the given label:

```

\newcommand*{\glentryuserviaccess}[1]{%
 \@gls@entry@field{#1}{userviaccess}%
}

```

There are three types of replacement text:

**Alt** Description of some content that's non-textual (for example, an image). A word break is assumed after the content.

**ActualText** A character or sequence of characters that replaces textual content (for example, a dropped capital, a ligature or a symbol). No word break is assumed after the content.

**E** Expansion of an abbreviation to avoid ambiguity (for example, “St” could be short for “saint” or “street”).

Therefore, rather than having one command for all fields, it’s better to have a command dependent on the field type. For example, the `short` and `shortpl` keys would require `E`, the `symbol` key would require `ActualText`, and a field that contains an image would require `Alt`.

```
\glsfieldaccsupp{<replacement>}{<content>}{<field>}{<label>}
```

`\glsfieldaccsupp`

Test if there’s a command called `\gls<field>accsupp`. If there is then use that otherwise use `\glsaccsupp`. The first argument should be the internal field label (not the key). The final argument is the entry label. If `glossaries-extra` has been loaded, this first checks for `\glsxtr<category><field>accsupp` and `\glsxtr<category>accsupp`.

```
\newcommand{\glsfieldaccsupp}[4]{%
 \ifdef\glscategory
 {%
 \ifcsdef{glsxtr\glscategory{#4}#3accsupp}%
 {\csname glsxtr\glscategory{#4}#3accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{glsxtr\glscategory{#4}accsupp}%
 {\csname glsxtr\glscategory{#4}accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
 }%
 }%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
}
```

```
\xglsfieldaccsupp{<replacement>}{<content>}{<field>}{<label>}
```

`\xglsfieldaccsupp`

As `\glsfieldaccsupp` but fully expand replacement text.

```
\newcommand{\xglsfieldaccsupp}[1]{%
 \protected@edef\@gls@replacementtext{#1}%
 \expandafter\glsfieldaccsupp\expandafter{\@gls@replacementtext}%
}
```



`\glsshortaccsupp`

```
\glsshortaccsupp{<replacement text>}{<text>}
```

```
\newcommand*{\glsshortaccsupp}[2]{\glsaccessibility{E}{#1}{#2}}
```

`\glsshortplaccsupp`

```
\glsshortplaccsupp{<replacement text>}{<text>}
```

```
\newcommand*{\glsshortplaccsupp}{\glsshortaccsupp}
```

`\glsaccsupp`

```
\glsaccsupp{<replacement text>}{<text>}
```

```
\newcommand*{\glsaccsupp}[2]{\glsaccessibility{ActualText}{#1}{#2}}
```

`\xglsaccsupp` Fully expands replacement text before calling `\glsaccsupp`

```
\newcommand*{\xglsaccsupp}[2]{%
 \protected@edef\gls@replacementtext{#1}%
 \expandafter\glsaccsupp\expandafter{\gls@replacementtext}{#2}%
}
```

`\@gls@access@display` Deprecated in v4.45. Use `\@gls@fieldaccess@display` instead.

```
\newcommand*{\@gls@access@display}[2]{%
 \protected@edef\glo@access{#2}%
 \ifx\glo@access\gls@noaccess
 #1%
 \else
 \xglsaccsupp{\glo@access}{#1}%
 \fi
}
```

`\@gls@fieldaccess@display`

```
\@gls@fieldaccess@display{<label>}{<field>}{<content>}
{<replacement>}
```

```
\newcommand*{\@gls@fieldaccess@display}[4]{%
 \protected@edef\glo@access{#4}%
 \ifdefequal\glo@access\gls@noaccess
 {#3}%
 {\expandafter\glsfieldaccsupp\expandafter{\glo@access}{#3}{#2}{#1}}%
}
```

`\glsnameaccessdisplay` Displays the first argument with the accessibility text for the entry with the label given by the second argument (if set).

```
\newrobustcmd*{\glsnameaccessdisplay}[2]{%
 \ifcsundef{glo@glsdetoklabel{#2}@access}%
```

```

 {#1}%
 {\@gls@fieldaccess@display{#2}{name}{#1}{\glsentryaccess{#2}}}%
 }

\glstextaccessdisplay As above but for the textaccess replacement text.
\newrobustcmd*{\glstextaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@textaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{text}{#1}{\glsentrytextaccess{#2}}}%
}

\glspluralaccessdisplay As above but for the pluralaccess replacement text.
\newrobustcmd*{\glspluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@pluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{plural}{#1}{\glsentrypluralaccess{#2}}}%
}

\glsfirstaccessdisplay As above but for the firstaccess replacement text.
\newrobustcmd*{\glsfirstaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{first}{#1}{\glsentryfirstaccess{#2}}}%
}

\glsfirstpluralaccessdisplay As above but for the firstpluralaccess replacement text.
\newrobustcmd*{\glsfirstpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{firstpl}{#1}{\glsentryfirstpluralaccess{#2}}}%
}

\glssymbolaccessdisplay As above but for the symbolaccess replacement text.
\newrobustcmd*{\glssymbolaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{symbol}{#1}{\glsentrysymbolaccess{#2}}}%
}

\glssymbolpluralaccessdisplay As above but for the symbolpluralaccess replacement text.
\newrobustcmd*{\glssymbolpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{symbolplural}{#1}{\glsentrysymbolpluralaccess{#2}}}%
}

\glsdescriptionaccessdisplay As above but for the descriptionaccess replacement text.
\newrobustcmd*{\glsdescriptionaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@descaccess}%

```

```

 {#1}%
 {\@gls@fieldaccess@display{#2}{desc}{#1}{\glsentrydescaccess{#2}}}%
 }
descriptionpluralaccessdisplay As above but for the descriptionpluralaccess replacement text.
\newrobustcmd*{\glsdescriptionpluralaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@descpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{descplural}{#1}{\glsentrydescpluralaccess{#2}}}%
}
\glsshortaccessdisplay As above but for the shortaccess replacement text.
\newrobustcmd*{\glsshortaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@shortaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{short}{#1}{\glsentryshortaccess{#2}}}%
}
\glsshortpluralaccessdisplay As above but for the shortpluralaccess replacement text.
\newrobustcmd*{\glsshortpluralaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@shortpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{shortpl}{#1}{\glsentryshortpluralaccess{#2}}}%
}
\glslongaccessdisplay As above but for the longaccess replacement text.
\newrobustcmd*{\glslongaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@longaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{long}{#1}{\glsentrylongaccess{#2}}}%
}
\glslongpluralaccessdisplay As above but for the longpluralaccess replacement text.
\newrobustcmd*{\glslongpluralaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@longpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{longpl}{#1}{\glsentrylongpluralaccess{#2}}}%
}
\glsuseriaccessdisplay As above but for the user1access replacement text.
\newrobustcmd*{\glsuseriaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@useriaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{useri}{#1}{\glsentryuseriaccess{#2}}}%
}
\glsuseriiaccessdisplay As above but for the user2access replacement text.
\newrobustcmd*{\glsuseriiaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@useriiaccess}%

```

```

 {#1}%
 {\@gls@fieldaccess@display{#2}{userii}{#1}{\glsentryuseriiaccess{#2}}}%
 }

```

`\glsuseriiiaccessdisplay` As above but for the user3access replacement text.

```

\newrobustcmd*{\glsuseriiiaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@useriiiaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{useriii}{#1}{\glsentryuseriiiaccess{#2}}}%
}

```

`\glsuserivaccessdisplay` As above but for the user4access replacement text.

```

\newrobustcmd*{\glsuserivaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@userivaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{useriv}{#1}{\glsentryuserivaccess{#2}}}%
}

```

`\glsuservaccessdisplay` As above but for the user5access replacement text.

```

\newrobustcmd*{\glsuservaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@uservaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{userv}{#1}{\glsentryuservaccess{#2}}}%
}

```

`\glsuserviaccessdisplay` As above but for the user6access replacement text.

```

\newrobustcmd*{\glsuserviaccessdisplay}[2]{%
 \ifcsundef{glo@glstetoklabel{#2}@userviaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{uservi}{#1}{\glsentryuserviaccess{#2}}}%
}

```

`\glsaccessdisplay` Gets the replacement text corresponding to the named key given by the first argument and calls the appropriate command defined above.

```

\newrobustcmd*{\glsaccessdisplay}[3]{%
 \ifcsundef{gls#1accessdisplay}%
 {%
 \PackageError{glossaries-accsupp}{No accessibility support
 for key ‘#1’}{%
 }%
 }%
 \csname gls#1accessdisplay\endcsname{#2}{#3}%
}

```

`\@gls@default@entryfmt` Deprecated `\@gls@default@entryfmt` was redefined to use accessibility information but has been removed in v4.50.

```

\glsentryfmt Redefine to use accessibility information.
\renewcommand*\glsentryfmt{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 Plural form
 \glscapscase
 {%
 Don't adjust case
 \ifglsused\glslabel
 {%
 Subsequent use
 \glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 First use
 \glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 {%
 Make first letter upper case
 \ifglsused\glslabel
 {%
 Subsequent use.
 \glspluralaccessdisplay
 {\Glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 First use
 \glsfirstpluralaccessdisplay
 {\Glsentryfirstplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 {%
 Make all upper case
 \ifglsused\glslabel
 {%

```

Subsequent use

```
\glspluralaccessdisplay
 {\glsuppercase{\glsentryplural{\glslabel}}}%
 {\glslabel}%
\glsuppercase{\glsinsert}%
}%
{%
```

First use

```
\glsfirstpluralaccessdisplay
 {\glsuppercase{\glsentryfirstplural{\glslabel}}}%
 {\glslabel}%
\glsuppercase{\glsinsert}%
}%
}%
}%
{%
```

Singular form

```
\glscapscale
{%
```

Don't adjust case

```
\ifglsused\glslabel
{%
```

Subsequent use

```
\glstextaccessdisplay{\glsentrytext{\glslabel}}{\glslabel}%
\glsinsert
}%
{%
```

First use

```
\glsfirstaccessdisplay{\glsentryfirst{\glslabel}}{\glslabel}%
\glsinsert
}%
}%
{%
```

Make first letter upper case

```
\ifglsused\glslabel
{%
```

Subsequent use

```
\glstextaccessdisplay{\Glsentrytext{\glslabel}}{\glslabel}%
\glsinsert
}%
{%
```

First use

```
\glsfirstaccessdisplay{\Glsentryfirst{\glslabel}}{\glslabel}%
\glsinsert
}%
```

```
}%
{%
```

Make all upper case

```
\ifglsused\glslabel
{%
```

Subsequent use

```
\glstextaccessdisplay
 {\glsuppercase{\glsentrytext{\glslabel}}}{\glslabel}%
\glsuppercase{\glsinsert}%
}%
{%
```

First use

```
\glsfirstaccessdisplay
 {\glsuppercase{\glsentryfirst{\glslabel}}}{\glslabel}%
\glsuppercase{\glsinsert}%
}%
}%
}%
{%
```

Custom text provided in `\glsdisp`. (The insert should be empty at this point.)  
The accessibility information, if required, will have to be explicitly included in  
the custom text.

```
\glscustomtext\glsinsert
}%
}
```

`\glsngenacfmt` Redefine to include accessibility information.

```
\renewcommand*{\glsngenacfmt}{%
 \ifdefempty\glscustomtext
 {%
 \ifglsused\glslabel
 {%
```

Subsequent use:

```
\glsifplural
{%
```

Subsequent plural form:

```
\glsupcase
{%
```

Subsequent plural form, don't adjust case:

```
\acronymfont
 {\glsshortpluralaccessdisplay
 {\glsentryshortpl{\glslabel}}{\glslabel}}%
\glsinsert
}%
{%
```

Subsequent plural form, make first letter upper case:

```
\acronymfont
{\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
\glsinsert
}%
{%
```

Subsequent plural form, all caps:

```
\glsupercase
{\acronymfont
 {\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert}%
}%
{%
```

Subsequent singular form

```
\glscapscase
{%
```

Subsequent singular form, don't adjust case:

```
\acronymfont
{\glsshortaccessdisplay{\Glsentryshort{\glslabel}}{\glslabel}}%
\glsinsert
}%
{%
```

Subsequent singular form, make first letter upper case:

```
\acronymfont
{\glsshortaccessdisplay{\Glsentryshort{\glslabel}}{\glslabel}}%
\glsinsert
}%
{%
```

Subsequent singular form, all caps:

```
\glsupercase
{\acronymfont{%
 \glsshortaccessdisplay{\Glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert}%
}%
}%
{%
```

First use:

```
\glsifplural
{%
```

First use plural form:

```
\glscapscase
{%
```



First use plural form, don't adjust case:

```
\genplacrfullformat{\glslabel}{\glsinsert}%
}%
{%
```

First use plural form, make first letter upper case:

```
\Genplacrfullformat{\glslabel}{\glsinsert}%
}%
{%
```

First use plural form, all caps:

```
\glsuppercase
{\genplacrfullformat{\glslabel}{\glsinsert}}%
}%
}%
{%
```

First use singular form

```
\gls caps case
{%
```

First use singular form, don't adjust case:

```
\genacrfullformat{\glslabel}{\glsinsert}%
}%
{%
```

First use singular form, make first letter upper case:

```
\Genacrfullformat{\glslabel}{\glsinsert}%
}%
{%
```

First use singular form, all caps:

```
\glsuppercase
{\genacrfullformat{\glslabel}{\glsinsert}}%
}%
}%
}%
{%
```

User supplied text. (The insert should be empty at this point.) The accessibility information, if required, will have to be explicitly included in the custom text.

```
\gls custom text
}%
}
```

`\genacrfullformat` Redefine to include accessibility information.

```
\renewcommand*{\genacrfullformat}[2]{%
 \gls long access display{\glsentrylong{#1}}{#1}#2\space
 (\gls short access display{\protect\firstacronymfont{\glsentryshort{#1}}}{#1})%
}
```

```

\Genacrfullformat Redefine to include accessibility information.
 \renewcommand*{\Genacrfullformat}[2]{%
 \glslongaccessdisplay{\Glsentrylong{#1}}{#1}#2\space
 (\glsshortaccessdisplay{\protect\firstacronymfont{\Glsentryshort{#1}}}{#1})%
 }

\genplacrfullformat Redefine to include accessibility information.
 \renewcommand*{\genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{#1}}{#1}#2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{#1}}}{#1})%
 }

\Genplacrfullformat Redefine to include accessibility information.
 \renewcommand*{\Genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{#1}}{#1}#2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{#1}}}{#1})%
 }

\@acrshort
\def\@acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay{\glsentryshort{#2}}{#2}}#3%
 }%
 }

Call \@gls@link
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%

 \glspostlinkhook
}

\@Acrshort
\def\@Acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glsapsacase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay{\Glsentryshort{#2}}{#2}}#3%
 }%
 }

```

```

Call \@gls@link
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

\@ACRshort
\def\@ACRshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax

 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay
 {\glsuppercase{\glsentryshort{#2}}}{#2}}#3%
 }%
 }%
Call \@gls@link
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

\@acrlong
\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax

 \let\glsifplural\@secondoftwo
 \let\glsapsase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glslongaccessdisplay{\glsentrylong{#2}}{#2}}#3%
 }%
 }%
Call \@gls@link
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

\@Acrlong
\def\@Acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax

```

```

\let\glsifplural\@secondoftwo
\let\glsifcaps\@firstofthree
\let\glsinsert\@empty
\def\glsacronymfont{\glslongacronymfont}{\glsentrylong{#2}}{#2}{#3}%
}

Call \@gls@link
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}

\glspostlinkhook
}

\@ACRlong
\def\@ACRlong#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\relax

\let\glsifplural\@secondoftwo
\let\glsifcaps\@firstofthree
\let\glsinsert\@empty
\def\glsacronymfont{\glslongacronymfont}{\glsentrylong{#2}}{#2}{#3}%
}

Call \@gls@link
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}

\glspostlinkhook
}

\@gls@text@
\def\@gls@text@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsacronymfont{\glsentrytext{#2}}{#2}{#3}%
}

\@Gls@text@
\def\@Gls@text@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\Glsacronymfont{\Glsentrytext{#2}}{#2}{#3}%
}

\@GLStext@
\def\@GLStext@#1#2[#3]{%
\@gls@field@link{#1}{#2}{%
{\glsacronymfont{\glsentrytext{#2}}{#2}{#3}%
\glsuppercase{#3}}%
}

```

```

\@glsfirst@
\def\@glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstaccessdisplay{\glsentryfirst{#2}}{#2}#3}%
}

\@Glsfirst@
\def\@Glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstaccessdisplay{\Glsentryfirst{#2}}{#2}#3}%
}

\@GLSfirst@
\def\@GLSfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsfirstaccessdisplay{\glsupercase{\glsentryfirst{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

\@glsplural@
\def\@glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glspluralaccessdisplay{\glsentryplural{#2}}{#2}#3}%
}

\@Glsplural@
\def\@Glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glspluralaccessdisplay{\Glsentryplural{#2}}{#2}#3}%
}

\@GLSplural@
\def\@GLSplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glspluralaccessdisplay{\glsupercase{\glsentryplural{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

\@glsfirstplural@
\def\@glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstpluralaccessdisplay{\glsentryfirstplural{#2}}{#2}#3}%
}

\@Glsfirstplural@
\def\@Glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstpluralaccessdisplay{\Glsentryfirstplural{#2}}{#2}#3}%
}

\@GLSfirstplural@
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsfirstpluralaccessdisplay{\glsupercase{\glsentryfirstplural{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

```

```

\@glsname@
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\glsentryname{#2}}{#2}#3}%
}

\@Glsname@
\def\@Glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\Glsentryname{#2}}{#2}#3}%
}

\@GLSname@
\def\@GLSname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsnameaccessdisplay{\glsuppercase{\glsentryname{#2}}}{#2}%
 \glsuppercase{#3}}%
 }
}

\@glsdesc@
\def\@glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\glsentrydesc{#2}}{#2}#3}%
}

\@Glsdesc@
\def\@Glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\Glsentrydesc{#2}}{#2}#3}%
}

\@GLSdesc@
\def\@GLSdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsdescriptionaccessdisplay{\glsuppercase{\glsentrydesc{#2}}}{#2}%
 \glsuppercase{#3}}%
 }
}

\@glsdescplural@
\def\@glsdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\glsentrydescplural{#2}}{#2}#3}%
}

\@Glsdescplural@
\def\@Glsdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\Glsentrydescplural{#2}}{#2}#3}%
}

\@GLSdescplural@
\def\@GLSdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsdescriptionpluralaccessdisplay{\glsuppercase{\glsentrydescplural{#2}}}{#2}%
 \glsuppercase{#3}}%
 }
}

```

```

\@glssymbol@
\def\@glssymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssymbolaccessdisplay{\glsentrysymbol{#2}}{#2}#3}%
}

\@Glsymbol@
\def\@Glsymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssymbolaccessdisplay{\Glsentrysymbol{#2}}{#2}#3}%
}

\@GLSsymbol@
\def\@GLSsymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glssymbolaccessdisplay{\glsupercase{\glsentrysymbol{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

\@glsymbolplural@
\def\@glsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsymbolpluralaccessdisplay{\glsentrysymbolplural{#2}}{#2}#3}%
}

\@Glsymbolplural@
\def\@Glsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsymbolpluralaccessdisplay{\Glsentrysymbolplural{#2}}{#2}#3}%
}

\@GLSsymbolplural@
\def\@GLSsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsymbolpluralaccessdisplay{\glsupercase{\glsentrysymbolplural{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

\@glsuseri@
\def\@glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\glsentryuseri{#2}}{#2}#3}%
}

\@Glsuseri@
\def\@Glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\Glsentryuseri{#2}}{#2}#3}%
}

\@GLSuseri@
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriaccessdisplay{\glsupercase{\glsentryuseri{#2}}}{#2}%
 \glsupercase{#3}}%
 }
}

```

```

\@glsuserii@
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\glsentryuserii{#2}}{#2}#3}%
}

\@Glsuserii@
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\Glsentryuserii{#2}}{#2}#3}%
}

\@GLSuserii@
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuseriiaccessdisplay{\glsuppercase{\glsentryuserii{#2}}}{#2}%
 \glsuppercase{#3}}%
}

\@glsuseriii@
\def\@glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\glsentryuseriii{#2}}{#2}#3}%
}

\@Glsuseriii@
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\Glsentryuseriii{#2}}{#2}#3}%
}

\@GLSuseriii@
\def\@GLSuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuseriiiaccessdisplay{\glsuppercase{\glsentryuseriii{#2}}}{#2}%
 \glsuppercase{#3}}%
}

\@glsuseriv@
\def\@glsuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\glsentryuseriv{#2}}{#2}#3}%
}

\@Glsuseriv@
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\Glsentryuseriv{#2}}{#2}#3}%
}

\@GLSuseriv@
\def\@GLSuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuserivaccessdisplay{\glsuppercase{\glsentryuseriv{#2}}}{#2}%
 \glsuppercase{#3}}%
}

```



```

\@glsuserv@
\def\@glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\glsentryuserv{#2}}{#2}#3}%
}

\@Glsuserv@
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\Glsentryuserv{#2}}{#2}#3}%
}

\@GLSuserv@
\def\@GLSuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuservaccessdisplay{\glsuppercase{\glsentryuserv{#2}}}{#2}%
 \glsuppercase{#3}}%
 }
}

\@glsuservi@
\def\@glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserviaccessdisplay{\glsentryuservi{#2}}{#2}#3}%
}

\@Glsuservi@
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserviaccessdisplay{\Glsentryuservi{#2}}{#2}#3}%
}

\@GLSuservi@
\def\@GLSuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuserviaccessdisplay{\glsuppercase{\glsentryuservi{#2}}}{#2}%
 \glsuppercase{#3}}%
 }
}

```

### 6.3 Displaying the Glossary

We need to redefine the way the glossary entries are formatted to include the accessibility support. The predefined glossary styles use `\glossentryname`, `\glossentrydesc` and `\glossentrysymbol`, but we need to provide compatibility with earlier versions in case users have defined their own styles using `\accsuppglossaryentryfield` and `\accsuppglossarysubentryfield`.

Now redefine `\glossentryname`, `\glossentrydesc` and `\glossentrysymbol` etc so they use the accessibility stuff.

```

\renewcommand*{\glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\glsentryname{#1}}{#1}}%
 }%
}

```

```

\renewcommand*\glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\Glsentryname{#1}}{#1}}%
 }%
}

\renewcommand*\glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\Glsentrydesc{#1}}{#1}%
 }%
}

\renewcommand*\Glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\Glsentrydesc{#1}}{#1}%
 }%
}

\renewcommand*\glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%
 \glssymbolaccessdisplay{\Glsentrysymbol{#1}}{#1}%
 }%
}

\renewcommand*\Glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%
 \glssymbolaccessdisplay{\Glsentrysymbol{#1}}{#1}%
 }%
}

```

\accsuppglossaryentryfield

```

\newcommand*\accsuppglossaryentryfield}[5]{%
 \glossaryentryfield{#1}%
 {\glsnameaccessdisplay{#2}{#1}}%
 {\glsdescriptionaccessdisplay{#3}{#1}}%
 {\glssymbolaccessdisplay{#4}{#1}}{#5}%
}

```

\accsuppglossarysubentryfield

```

\newcommand*\accsuppglossarysubentryfield}[6]{%
 \glossarysubentryfield{#1}{#2}%
 {\glsnameaccessdisplay{#3}{#2}}%
 {\glsdescriptionaccessdisplay{#4}{#2}}%
 {\glssymbolaccessdisplay{#5}{#2}}{#6}%
}

```

## 6.4 Acronyms

Redefine acronym styles provided by glossaries:

long-short  $\langle long \rangle$  ( $\langle short \rangle$ ) acronym style.

```
\renewacronymstyle{long-short}%
{%
```

Check for long form in case this is a mixed glossary.

```
\ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}##2\space
\glsshortaccessdisplay
\protect\firstacronymfont{\glsentryshort{##1}}{##1})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\glslongaccessdisplay{\Glsentrylong{##1}}{##1}##2\space
\glsshortaccessdisplay
\protect\firstacronymfont{\glsentryshort{##1}}{##1})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}##2\space
\glsshortpluralaccessdisplay
\protect\firstacronymfont{\glsentryshortpl{##1}}{##1})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}##2\space
\glsshortpluralaccessdisplay
\protect\firstacronymfont{\glsentryshortpl{##1}}{##1})%
}%
\renewcommand*{\acronymentry}[1]{%
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}}
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
```

short-long  $\langle short \rangle$  ( $\langle long \rangle$ ) acronym style.

```
\renewacronymstyle{short-long}%
{%
```

Check for long form in case this is a mixed glossary.

```
\ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
```

```

\glsshortaccessdisplay
 {\protect\firstacronymfont{\glentryshort{##1}}}{##1}##2\space
(\glslongaccessdisplay{\glentrylong{##1}}{##1})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
 \glsshortaccessdisplay
 {\protect\firstacronymfont{\Glentryshort{##1}}}{##1}##2\space
 (\glslongaccessdisplay{\glentrylong{##1}}{##1})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glentryshortpl{##1}}}{##1}##2\space
 (\glslongpluralaccessdisplay
 {\glentrylongpl{##1}}{##1})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\Glentryshortpl{##1}}}{##1}##2\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##1}}{##1})%
}%
\renewcommand*{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}

```

`long-short-desc` *⟨long⟩* (*{⟨short⟩}*) acronym style that has an accompanying description (which the user needs to supply).

```

\renewacronymstyle{long-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1})%
 }
}

```

`long-sc-short-desc` *⟨long⟩* (`\textsc{⟨short⟩}`) acronym style that has an accompanying description (which the user needs to supply).

```

\renewacronymstyle{long-sc-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sc-short}%
}%

```

```

 {%
 \GlsUseAcrStyleDefs{long-sc-short}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
 }

long-sm-short-desc <long> (\textsmaller{<short>}) acronym style that has an accompanying de-
scription (which the user needs to supply).
 \renewacronymstyle{long-sm-short-desc}%
 {%
 \GlsUseAcrEntryDispStyle{long-sm-short}%
 }%
 {%
 \GlsUseAcrStyleDefs{long-sm-short}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
 }

short-long-desc <short> ({<long>}) acronym style that has an accompanying description (which
the user needs to supply).
 \renewacronymstyle{short-long-desc}%
 {%
 \GlsUseAcrEntryDispStyle{short-long}%
 }%
 {%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
 }

sc-short-long-desc <long> (\textsc{<short>}) acronym style that has an accompanying description
(which the user needs to supply).
 \renewacronymstyle{sc-short-long-desc}%
 {%
 \GlsUseAcrEntryDispStyle{sc-short-long}%
 }%
 {%
 \GlsUseAcrStyleDefs{sc-short-long}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 }

```

```

\renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}

```

sm-short-long-desc *⟨long⟩* (`\textsmaller{⟨short⟩}`) acronym style that has an accompanying description (which the user needs to supply).

```

\renewacronymstyle{sm-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sm-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}

```

dua *⟨long⟩* only acronym style.

```

\renewacronymstyle{dua}%
{%

```

Check for long form in case this is a mixed glossary.

```

\ifdefempty\glscustomtext
{%
 \ifglsahaslong{\glslabel}%
 {%
 \glsifplural
 {%

```

Plural form:

```

\gls caps case
{%

```

Plural form, don't adjust case:

```

\gls long plural access display {\glsentrylongpl{\glslabel}}{\glslabel}%
\gls insert
}%
{%

```

Plural form, make first letter upper case:

```

\gls long plural access display {\Glsentrylongpl{\glslabel}}{\glslabel}%
\gls insert
}%
{%

```

Plural form, all caps:

```

\gls long plural access display
{\glsupercase{\glsentrylongpl{\glslabel}}}{\glslabel}%

```

```

 \glsuppercase{\glsinsert}%
 }%
}%
{%-
Singular form
 \glscapscase
 {%-
Singular form, don't adjust case:
 \glslongaccessdisplay{\glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%-
Subsequent singular form, make first letter upper case:
 \glslongaccessdisplay{\Glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%-
Subsequent singular form, all caps:
 \glslongaccessdisplay
 {\glsuppercase
 {\glsentrylong{\glslabel}\glsinsert}}{\glslabel}%
 \glsuppercase{\glsinsert}%
 }%
}%
{%-
Not an acronym:
 \glsgenentryfmt
 }%
}%
{\glscustomtext\glsinsert}%
}%
{%-
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\acrfullfmt}[3]{%-
 \glslink[##1]{##2}{%-
 \glslongaccessdisplay{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}{##2})}}%
\renewcommand*{\Acrfullfmt}[3]{%-
 \glslink[##1]{##2}{%-
 \glslongaccessdisplay{\Glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%-
 \glslink[##1]{##2}{%-
 \glslongaccessdisplay
 {\glsuppercase{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}{##2})}}%
\renewcommand*{\acrfullplfmt}[3]{%-
 \glslink[##1]{##2}{%-

```

```

\glslongpluralaccessdisplay
 {\glsentrylongpl{##2}}{##2}##3\space
(\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}{##2}})}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\Glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}{##2}})}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\glsupercase{\glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}{##2}})}%
\renewcommand*{\glsentryfull}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}})%
}%
\renewcommand*{\Glsentryfull}[1]{%
 \glslongaccessdisplay{\Glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}\space
 (\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}{##1}})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}\space
 (\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}{##1}})%
}%
\renewcommand*{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}

```

dua-desc *⟨long⟩* only acronym style with user-supplied description.

```

\renewacronymstyle{dua-desc}%
{%
 \GlsUseAcrEntryDispStyle{dua}%
}%
{%
 \GlsUseAcrStyleDefs{dua}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\acronymfont{\glsentrylong{##1}}{##1}}%
\renewcommand*{\acronymsort}[2]{##2}%

```



}%

footnote *<short>*\footnote{*<long>*} acronym style.

```
\renewacronymstyle{footnote}%
```

{%

Check for long form in case this is a mixed glossary.

```
\ifglshaslong{\glslabel}{\glsгенacfmt}{\glsгенentryfmt}%
```

}%

{%

```
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
```

Need to ensure hyperlinks are switched off on first use:

```
\glshyperfirstfalse
```

```
\renewcommand*{\genacrfullformat}[2]{%
```

```
\glsshortaccessdisplay
```

```
{\protect\firstacronymfont{\glsentryshort{##1}}}{##1}##2%
```

```
\protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}}{##1}}%
```

}%

```
\renewcommand*{\Genacrfullformat}[2]{%
```

```
\glsshortaccessdisplay
```

```
{\firstacronymfont{\Glsentryshort{##1}}}{##1}##2%
```

```
\protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}}{##1}}%
```

}%

```
\renewcommand*{\genplacrfullformat}[2]{%
```

```
\glsshortpluralaccessdisplay
```

```
{\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1}##2%
```

```
\protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}}{##1}}%
```

}%

```
\renewcommand*{\Genplacrfullformat}[2]{%
```

```
\glsshortpluralaccessdisplay
```

```
{\protect\firstacronymfont{\Glsentryshortpl{##1}}}{##1}##2%
```

```
\protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}}{##1}}%
```

}%

```
\renewcommand*{\acronymentry}[1]{%
```

```
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}%
```

```
\renewcommand*{\acronymsort}[2]{##1}%
```

```
\renewcommand*{\acronymfont}[1]{##1}%
```

```
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
```

Don't use footnotes for \acrfull:

```
\renewcommand*{\acrfullfmt}[3]{%
```

```
\glslink[##1]{##2}{%
```

```
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2}##3\space
```

```
(\glslongaccessdisplay{\glsentrylong{##2}}{##2}))}%
```

```
\renewcommand*{\Acrfullfmt}[3]{%
```

```
\glslink[##1]{##2}{%
```

```
\glsshortaccessdisplay{\acronymfont{\Glsentryshort{##2}}}{##2}##3\space
```

```
(\glslongaccessdisplay{\glsentrylong{##2}}{##2}))}%
```

```
\renewcommand*{\ACRfullfmt}[3]{%
```

```
\glslink[##1]{##2}{%
```

```

\glsshortaccessdisplay
 {\glsupercase
 {\acronymfont{\glsentryshort{##2}}{##2}##3\space
 (\glslongaccessdisplay{\glsentrylong{##2}}{##2})}}}%
\renewcommand*\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}}{##2})}}}%
\renewcommand*\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\Glsentryshortpl{##2}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}}{##2})}}}%
\renewcommand*\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\glsupercase
 {\acronymfont{\glsentryshortpl{##2}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}}{##2})}}}}}%

```

Similarly for `\glsentryfull` etc:

```

\renewcommand*\glsentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}\space
 (\glslongaccessdisplay{\glsentrylong{##1}}{##1})}%
\renewcommand*\Glsentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\Glsentryshort{##1}}{##1}\space
 (\glslongaccessdisplay{\glsentrylong{##1}}{##1})}%
\renewcommand*\glsentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##1}}{##1}\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1})}%
\renewcommand*\Glsentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\Glsentryshortpl{##1}}{##1}\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1})}%
}

```

`footnote-sc \textsc{<short>}\footnote{<long>}` acronym style.

```

\renewacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}{##1}}
\renewcommand{\acronymfont}[1]{\textsc{##1}}%
\renewcommand*\acrpluralsuffix{\glsstextup{\glspluralsuffix}}%
}%

```

footnote-sm \textsmaller{<short>}\footnote{<long>} acronym style.

```
\renewacronymstyle{footnote-sm}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}%
```

footnote-desc <short>\footnote{<long>} acronym style that has an accompanying description (which the user needs to supply).

```
\renewacronymstyle{footnote-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1))}%
 }
}
```

footnote-sc-desc \textsc{<short>}\footnote{<long>} acronym style that has an accompanying description (which the user needs to supply).

```
\renewacronymstyle{footnote-sc-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sc}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1))}%
 }
}
```

footnote-sm-desc \textsmaller{<short>}\footnote{<long>} acronym style that has an accompanying description (which the user needs to supply).

```
\renewacronymstyle{footnote-sm-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sm}%
}%
```

```
{%
\GlsUseAcrStyleDefs{footnote-sm}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
(\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}
```

```
\glsdefaultshortaccess{<long>}{<short>}
```

`\glsdefaultshortaccess`

Default shortaccess value.

```
\newcommand*\glsdefaultshortaccess}[2]{#1}
```

Use `\newacronymhook` to modify the key list to set the access text to the long version by default.

```
\renewcommand*\newacronymhook{%
\protected@edef\gls@keylist{%
shortaccess={\glsdefaultshortaccess{the\glslongtok}{the\glsshorttok}},%
shortpluralaccess={\glsdefaultshortaccess{the\glslongtok}{the\glsshorttok}},%
\the\glskeylisttok}%
\expandafter\glskeylisttok\expandafter{\gls@keylist}%
}
```

`\DefaultNewAcronymDef` Deprecated with the introduction of `\setacronymstyle` in v4.02 (2013-12-05) and removed in v4.50.

`\DescriptionFootnoteNewAcronymDef` Deprecated with the introduction of `\setacronymstyle` in v4.02 (2013-12-05) and removed in v4.50.

`\DescriptionNewAcronymDef` Deprecated with the introduction of `\setacronymstyle` in v4.02 (2013-12-05) and removed in v4.50.

`\FootnoteNewAcronymDef` Deprecated with the introduction of `\setacronymstyle` in v4.02 (2013-12-05) and removed in v4.50.

`\SmallNewAcronymDef` Deprecated with the introduction of `\setacronymstyle` in v4.02 (2013-12-05) and removed in v4.50.

The following are kept for compatibility with versions before 3.0:

`\glsshortaccesskey`

```
\newcommand*\glsshortaccesskey{\glsshortkey access}%
```

`\glsshortpluralaccesskey`

```
\newcommand*\glsshortpluralaccesskey{\glsshortpluralkey access}%
```

`\glslongaccesskey`

```
\newcommand*\glslongaccesskey{\glslongkey access}%
```

```
\glslongpluralaccesskey
 \newcommand*{\glslongpluralaccesskey}{\glslongpluralkey access}%
```

## 6.5 Debugging Commands

```
\showglongnameaccess
 \newcommand*{\showglongnameaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@access\endcsname
 }
```

```
\showglongtextaccess
 \newcommand*{\showglongtextaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@textaccess\endcsname
 }
```

```
\showglongpluralaccess
 \newcommand*{\showglongpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@pluralaccess\endcsname
 }
```

```
\showglongfirstaccess
 \newcommand*{\showglongfirstaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstaccess\endcsname
 }
```

```
\showglongfirstpluralaccess
 \newcommand*{\showglongfirstpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstpluralaccess\endcsname
 }
```

```
\showglongsymbolaccess
 \newcommand*{\showglongsymbolaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbolaccess\endcsname
 }
```

```
\showglongsymbolpluralaccess
 \newcommand*{\showglongsymbolpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbolpluralaccess\endcsname
 }
```

```
\showglongdescaccess
 \newcommand*{\showglongdescaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@descaccess\endcsname
 }
```

```
\showglongdescpluralaccess
 \newcommand*{\showglongdescpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@descpluralaccess\endcsname
 }
```

`\showgloshortaccess`

```
\newcommand*{\showgloshortaccess}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@shortaccess\endcsname
}
```

`\showgloshortpluralaccess`

```
\newcommand*{\showgloshortpluralaccess}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@shortpluralaccess\endcsname
}
```

`\showglolongaccess`

```
\newcommand*{\showglolongaccess}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@longaccess\endcsname
}
```

`\showglolongpluralaccess`

```
\newcommand*{\showglolongpluralaccess}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@longpluralaccess\endcsname
}
```

## 7 Backwards Compatibility

### 7.1 glossaries-compatible-207

Provides compatibility with version 2.07 and below. This uses original glossaries indy and makeindex formatting, so can be used with old documents that had customized style files, but hyperlinks may not work properly.

Now only available with rollback.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-compatible-207-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-compatible-207-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Identify package.

```
\ProvidesPackage{glossaries-compatible-207}[2024/11/01 v4.55 (NLCT)]
```

Trigger error and that's it.

```
\PackageError{glossaries}
{glossaries-compatible-207.sty no longer available. Use rollback if you need it}%
{Try \string\usepackage{glossaries}[=v4.46]}
```

### 7.2 glossaries-compatible-307

Provides compatibility with version 3.07 and below.

Now only available with rollback.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v4.46}{2020-03-19}{glossaries-compatible-307-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-compatible-307-2021-11-01.sty}
\DeclareCurrentRelease{v4.55}{2024-11-01}
```

Identify package.

```
\ProvidesPackage{glossaries-compatible-307}[2024/11/01 v4.55 (NLCT)]
```

Trigger error and that's it.

```
\PackageError{glossaries}
{glossaries-compatible-307.sty no longer available. Use rollback if you need it}%
{Try \string\usepackage{glossaries} [=v4.46]}
```

## 8 Rollback

### 8.1 Rollback v4.46 (glossaries-2020-03-19.sty)

Version 4.46 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{ifthen}
\RequirePackage{xkeyval}[2006/11/18]
\RequirePackage{mfirstuc}
\RequirePackage{textcase}
\renewcommand*{\mfirstucMakeUppercase}{\MakeTextUppercase}%
\RequirePackage{xfor}
\RequirePackage{datatool-base}
\RequirePackage{amsgen}
\RequirePackage{etoolbox}
\newif\if@gls@docloaded
\@ifpackageloaded{doc}%
{
 \@gls@docloadedtrue
}%
{
 \@ifclassloaded{nlctdoc}{\@gls@docloadedtrue}{\@gls@docloadedfalse}%
}
\if@gls@docloaded
 \let\glsorg@theglossary\theglossary
 \let\glsorg@endtheglossary\endtheglossary
 \let\glsorg@PrintChanges\PrintChanges
 \renewcommand{\PrintChanges}{%
 \begingroup
 \let\theglossary\glsorg@theglossary
 \let\endtheglossary\glsorg@endtheglossary
 \glsorg@PrintChanges
 \endgroup
 }
\fi
```

```

\newif\if@gls@debug
\define@choicekey{glossaries.sty}{debug}[\gls@debug@val\gls@debug@nr]{%
{true,false,showtargets,showaccsupp}[true]{%
\ifcase\gls@debug@nr\relax
% debug=true
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\let\@glsshowtarget\@gobble
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\or
% debug=false
\@gls@debugfalse
\let\@glsshowtarget\@gobble
\let\@glsshowaccsupp\@gobblethree
\PackageInfo{glossaries}{debug mode OFF}%
\or
% debug=showtargets
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowtarget}{\@glsshowtarget}%
\or
% debug=showaccsupp
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowaccsupp}{\glsshowaccsupp}%
\fi
}
\newcommand*\glsshowtarget}[1]{%
\ifmmode
\nfss@text{\glsshowtargetfont [#1]}%
\else
\ifinner
{\glsshowtargetfont [#1]}%

```



```

\else
 \glsshowtargetouter{#1}%
\fi
\fi
}
\newcommand*\glsshowtargetouter[1]{%
 \glsshowtargetsymbolsymbol\marginpar{\glsshowtargetsymbolsymbol\glsshowtargetfont #1}}
\newcommand*\glsshowtargetsymbolsymbol{{\tiny\triangleright}}
\newcommand*\glsshowtargetfont{\ttfamily\footnotesize}
\newcommand*\@glsshowtarget[1]{%
\newrobustcmd*\@@glsshowtarget[1]{%
 \begingroup
 \protected@edef\@gls@tmp{#1}%
 \@onelevel@sanitize\@gls@tmp
 \expandafter\glsshowtarget\expandafter{\@gls@tmp}%
 \endgroup
}
\newcommand*\@glsshowaccsupp[3]{%
\newrobustcmd*\@glsshowaccsupp[3]{%
 \ifstrempy{#1}%
 {\@@glsshowtarget{/#2 (#3)}}%
 {\@@glsshowtarget{/#2 (#3) [#1]}}%
}
\newcommand*\@gls@see@noindex{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries\space (or move
 \string\newglossaryentry\space
 definitions into the preamble)}}%
{You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key. It may
 be that the 'see' key has been written to the .glsdefs
 file from the previous run, in which case you need to
 move your definitions
 to the preamble if you don't want to use
 \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@choicekey{glossaries.sty}{seenoinde}x{%
 [\gls@seenoinde@val\gls@seenoinde@nr]{error, warn, ignore}{%
 \ifcase\gls@seenoinde@nr
 \renewcommand*\@gls@see@noindex{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key}%
 }%
}

```

```

\or
 \renewcommand*\@gls@see@noindex}{%
 \GlossariesWarning{'\gls@xr@key' key ignored}%
 }%
\or
 \renewcommand*\@gls@see@noindex}{}%
\fi
}
\define@boolkey{glossaries.sty}[gls]{toc}[true]{}
\define@boolkey{glossaries.sty}[gls]{numberline}[true]{}
\ifcsundef{chapter}%
 {\newcommand*\@@glossarysec}{section}}%
 {\newcommand*\@@glossarysec}{chapter}}
\define@choicekey{glossaries.sty}{section}{part,chapter,section,%
subsection,subsection,paragraph,subparagraph}[section]{%
 \renewcommand*\@@glossarysec{#1}}
\newcommand*\@@glossarysecstar}{*}%
\newcommand*\@@glossaryseclabel}{%
\newcommand*\glsautoprefix{}%
\define@choicekey{glossaries.sty}{numberedsection}%
 [\gls@numberedsection@val\gls@numberedsection@nr]{%
false,nolabel,autolabel,nameref}[nolabel]{%
 \ifcase\gls@numberedsection@nr\relax
 \renewcommand*\@@glossarysecstar}{*}%
 \renewcommand*\@@glossaryseclabel}{%
 \or
 \renewcommand*\@@glossarysecstar}{}%
 \renewcommand*\@@glossaryseclabel}{%
 \or
 \renewcommand*\@@glossarysecstar}{}%
 \renewcommand*\@@glossaryseclabel}{%
 \label{\glsautoprefix\@glo@type}}%
 \or
 \renewcommand*\@@glossarysecstar}{*}%
 \renewcommand*\@@glossaryseclabel}{%
 \protected@edef\@currentlabelname{\glossarytoctitle}%
 \label{\glsautoprefix\@glo@type}}%
 \fi
}
\@ifpackageloaded{classicthesis}
{\newcommand*\@glossary@default@style}{index}}
{\newcommand*\@glossary@default@style}{list}}
\define@key{glossaries.sty}{style}{%
 \def\@glossary@default@style{#1}%
}
\newcommand*\@gls@declareoption}[2]{%
 \DeclareOptionX{#1}{#2}%
 \DeclareOption{#1}{#2}%
}
\newcommand*\glossaryentrynumbers}[1]{#1\gls@save@numberlist{#1}}

```

```

\@gls@declareoption{nonumberlist}{%
 \renewcommand*\glossaryentrynumbers}[1]{\gls@save@numberlist{#1}}%
}
\define@boolkey{glossaries.sty}[gls]{savenumberlist}[true]{%
\gls@savenumberlistfalse
\newcommand*\glo@seeautonumberlist{}
\@gls@declareoption{seeautonumberlist}{%
 \renewcommand*\glo@seeautonumberlist}{%
 \def\glo@prefix{\glsnextpages}%
 }%
}
\define@boolkey{glossaries.sty}[gls]{esclocations}[true]{%
\gls@esclocationstrue
\newcommand*\gls@loadlong{\RequirePackage{glossary-long}[=v4.46]}
\@gls@declareoption{nolong}{\renewcommand*\gls@loadlong{}}
\IfFileExists{supertabular.sty}{%
 \newcommand*\gls@loadsuper{\RequirePackage{glossary-super}[=v4.46]}}{%
 \newcommand*\gls@loadsuper{}}
\@gls@declareoption{nosuper}{\renewcommand*\gls@loadsuper{}}
\newcommand*\gls@loadlist{\RequirePackage{glossary-list}[=v4.46]}
\@gls@declareoption{nolist}{%
 \renewcommand*\gls@loadlist}{%
 \ifdefstring{\glossary@default@style}{list}%
 {\let\glossary@default@style\relax}%
 }%
}
\newcommand*\gls@loadtree{\RequirePackage{glossary-tree}[=v4.46]}
\@gls@declareoption{notree}{\renewcommand*\gls@loadtree{}}
\@gls@declareoption{nostyles}{%
 \renewcommand*\gls@loadlong}{%
 \renewcommand*\gls@loadsuper}{%
 \renewcommand*\gls@loadlist}{%
 \renewcommand*\gls@loadtree}{%
 \let\glossary@default@style\relax
}
\newcommand*\gls@postdescription}{%
 \ifglsnopostdot\else.\spacefactor\sfcode'\. \fi
}
\define@boolkey{glossaries.sty}[gls]{nopostdot}[true]{%
\gls@nopostdotfalse
\define@boolkey{glossaries.sty}[gls]{nogroupskip}[true]{%
\gls@nogroupskipfalse
\define@boolkey{glossaries.sty}[gls]{ucmark}[true]{%
\@ifclassloaded{memoir}
{%
 \glsucmarktrue
}%
}
}
\glsucmarkfalse

```

```

}
\newcommand*{\@gls@define@glossaryentrycounter}{%
 \ifglentrycounter
 \ifundef\c@glossaryentry
 {%
 \ifx\@gls@counterwithin\@empty
 \newcounter{glossaryentry}%
 \else
 \newcounter{glossaryentry}[\@gls@counterwithin]%
 \fi
 \def\theH@glossaryentry{\currentglossary.\theglossaryentry}%
 }%
 }%
\fi
}
\define@boolkey{glossaries.sty}[gls]{entrycounter}[true]{}
\glentrycounterfalse
\define@key{glossaries.sty}{counterwithin}{%
 \renewcommand*{\@gls@counterwithin}{#1}%
 \glentrycountertrue
 \@gls@define@glossaryentrycounter
}
\newcommand*{\@gls@counterwithin}{}
\newcommand{\@gls@define@glossarysubentrycounter}{%
 \ifundef\c@glossarysubentry
 {%
 \ifglssubentrycounter
 \ifglentrycounter
 \newcounter{glossarysubentry}[glossaryentry]%
 \else
 \newcounter{glossarysubentry}%
 \fi
 \def\theH@glossarysubentry{\currentglossary.\currentglssubentry.\theglossarysubentry}%
 \fi
 }%
 }%
}
\define@boolkey{glossaries.sty}[gls]{subentrycounter}[true]{}
\glssubentrycounterfalse
\newcommand*{\@glo@default@sorttype}{standard}
\define@choicekey{glossaries.sty}{sort}{standard,def,use,none}{%
 \renewcommand*{\@glo@default@sorttype}{#1}%
 \csname @gls@setupsort@#1\endcsname
}
\newcommand*{\glsprestandardsort}[3]{%
 \glsdosanitizesort
}
\newcommand*{\@glo@check@sortallowed}[1]{}
\newcommand*{\@gls@setupsort@standard}{%
 \def\do@glo@storeentry{\@glo@storeentry}%

```

```

\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{%
 \ifx\@glo@sort\@glsdefaultsort
 \let\@glo@sort\@glo@name
 \fi
 \let\glsdosanitizesort\@gls@sanitizesort
 \glsprestandardsort{\@glo@sort}{##1}{##2}%
 \expandafter\protected@xdef\csname glo@##2@sort\endcsname{\@glo@sort}%
}%
\def\@gls@setsort##1{%
\let\@glo@check@sortallowed\@gobble
}
\@gls@setupsort@standard
\newcommand*\glsortnumberfmt [1]{%
 \ifnum#1<100000 0\fi
 \ifnum#1<10000 0\fi
 \ifnum#1<1000 0\fi
 \ifnum#1<100 0\fi
 \ifnum#1<10 0\fi
 \number#1%
}
\newcommand*\@gls@setupsort@def{%
\def\do@glo@storeentry{\@glo@storeentry}%
\def\@gls@defsortcount##1{%
 \expandafter\global
 \expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
 \ifcsundef{glossary@##1@sortcount}%
 {\@gls@defsortcount{##1}}%
 {}%
 \expandafter\global\expandafter
 \advance\csname glossary@##1@sortcount\endcsname by 1\relax
 \expandafter\protected@xdef\csname glo@##2@sort\endcsname{%
 \expandafter\glsortnumberfmt
 {\csname glossary@##1@sortcount\endcsname}}%
}%
\def\@gls@setsort##1{%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*\@gls@setupsort@use{%
\let\do@glo@storeentry\@gobble
\def\@gls@defsortcount##1{%
 \expandafter\global
 \expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
 \expandafter\gdef\csname glo@##2@sort\endcsname{}%
}%
\def\@gls@setsort##1{%

```

```

\edef\@glo@parent{\csname glo@##1@parent\endcsname}%
\ifx\@glo@parent\@empty
\else
\expandafter\@gls@setsort\expandafter{\@glo@parent}%
\fi
\edef\@glo@type{\csname glo@##1@type\endcsname}%
\edef\@gls@tmp{\csname glo@##1@sort\endcsname}%
\ifx\@gls@tmp\@empty
\expandafter\global\expandafter
\advance\csname glossary@\@glo@type @sortcount\endcsname by 1\relax
\expandafter\protected\edef\csname glo@##1@sort\endcsname{%
\expandafter\glsortnumberfmt
{\csname glossary@\@glo@type @sortcount\endcsname}}%
\@glo@storeentry{##1}%
\fi
}%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*{\@gls@setupsort@none}{%
\def\do@glo@storeentry##1{%
\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{%
\expandafter\global\expandafter\let\csname glo@##2@sort\endcsname\@glo@sort
}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=none not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*{\glsdefmain}{%
\if@gls@docloaded
\newglossary[glg2]{main}{gls2}{glo2}{\glossaryname}%
\else
\newglossary{main}{gls}{glo}{\glossaryname}%
\fi
\newcommand*{\gls@tr@set@main@toctitle}{%
\translatelet{\glossarytoctitle}{Glossary}%
}%
}
\newcommand*{\glsdefaulttype}{main}
\newcommand*{\acronymtype}{\glsdefaulttype}
\@gls@declareoption{nomain}{%
\let\glsdefaulttype\relax
\renewcommand*{\glsdefmain}{}%
}
\define@boolkey{glossaries.sty}{gls}{acronym}[true]{%
\ifglsacronym
\renewcommand{\@gls@do@acronymsdef}{%
\DeclareAcronymList{acronym}%
\newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
}

```

```

 \renewcommand*\acronymtype}{acronym}%
 \newcommand*\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
\else
 \let\gls@do@acronymsdef\relax
\fi
}
\AtBeginDocument{%
 \ifglsacronym
 \ifbool{glscompatible-3.07}%
 {}%
 {%
 \providecommand*\printacronyms}[1][{}]{%
 \printglossary[type=\acronymtype,#1]}%
 }%
 \fi
 }
\newcommand*\gls@do@acronymsdef{}
\gls@declareoption{acronyms}{%
 \glsacronymtrue
 \def\gls@do@acronymsdef{%
 \DeclareAcronymList{acronym}%
 \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
 \renewcommand*\acronymtype}{acronym}%
 \newcommand*\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
}
\newcommand*\glsacronymlists{}
\newcommand*\@addtoacronymlists}[1]{%
 \ifx@glsacronymlists\@empty
 \protected@xdef\glsacronymlists{#1}%
 \else
 \protected@xdef\glsacronymlists{\glsacronymlists,#1}%
 \fi
}
\newcommand*\DeclareAcronymList}[1]{%
 \glsIfListOfAcronyms{#1}{\@addtoacronymlists{#1}}%
}
\newcommand*\glsIfListOfAcronyms}[1]{%
 \edef\do@gls@islistofacronyms{%
 \noexpand@gls@islistofacronyms{#1}{\glsacronymlists}}%
 \do@gls@islistofacronyms
}
\newcommand*\@gls@islistofacronyms}[4]{%
 \def\gls@islistofacronyms##1,#1,##2\end@gls@islistofacronyms{%
 \def\gls@before{##1}\def\gls@after{##2}}%
}

```

```

\gls@islistofacronyms,#2,#1,\@nil\end@gls@islistofacronyms
\ifx\@gls@after\@nnil
#4%
\else
#3%
\fi
}
\newif\if@gls@isacronymlist
\newcommand*\@gls@checkisacronymlist}[1]{%
\glsIfListOfAcronyms{#1}%
{\@gls@isacronymlisttrue}{\@gls@isacronymlistfalse}%
}
\newcommand*\@SetAcronymLists}[1]{%
\renewcommand*\@gls@acronymlists{#1}%
}
\define@key{glossaries.sty}{acronymlists}{%
\DeclareAcronymList{#1}%
}
\newcommand*\@gls@counter{page}
\define@key{glossaries.sty}{counter}{%
\renewcommand*\@gls@counter{#1}%
}
\newcommand*\@gls@nohyperlist{}
\newcommand*\@GlsDeclareNoHyperList}[1]{%
\ifdefempty\@gls@nohyperlist
{%
\renewcommand*\@gls@nohyperlist{#1}%
}%
{%
\appto\@gls@nohyperlist{,#1}%
}%
}
\define@key{glossaries.sty}{nohypertypes}{%
\GlsDeclareNoHyperList{#1}%
}
\newcommand*\@GlossariesWarning}[1]{%
\PackageWarning{glossaries}{#1}%
}
\newcommand*\@GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{#1}%
}
\newcommand*\@glosortentrieswarning{%
\typeout{Using TeX to sort glossary entries---this may
take a while}%
}
\@gls@declareoption{nowarn}{%
\if@gls@debug
\GlossariesWarning{Warnings can't be suppressed in debug mode}%
\else
\renewcommand*\@GlossariesWarning}[1]{%

```



```

 \renewcommand*\GlossariesWarningNoLine}[1]{}%
 \renewcommand*\glosortentrieswarning}{}%
 \renewcommand*\@gls@missinglang@warn}[2]{}%
 \fi
}
\newcommand*\@gls@missinglang@warn}[2]{%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for ‘#1’.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 ‘glossaries-#2’ or similar}%
}
\@gls@declareoption{noLANGwarn}{%
 \renewcommand*\@gls@missinglang@warn}[2]{}%
}
\newcommand*\@gls@warnonglossdefined}{%
 \GlossariesWarning{Overriding \string\printglossary}%
}
\newcommand*\@gls@warnontheglossdefined}{%
 \GlossariesWarning{Overriding ‘theglossary’ environment}%
}
\@gls@declareoption{noRedefwarn}{%
 \renewcommand*\@gls@warnonglossdefined}{}%
 \renewcommand*\@gls@warnontheglossdefined}{}%
}
\newcommand*\@gls@sanitizedesc}{%
}
\newcommand*\glssetexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
}
\newcommand*\glssetnoexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@noexpand@field{##1}{#1}{##2}%
 }%
}
\glssetexpandfield{type}
\glssetnoexpandfield{desc}
\glssetnoexpandfield{desclplural}
\newcommand*\@gls@sanitizename}{%
\glssetnoexpandfield{name}
\newcommand*\@gls@sanitizesymbol}{%
\glssetnoexpandfield{symbol}
\glssetnoexpandfield{symbolplural}
\newcommand*\@gls@sanitizesort}{%
 \ifgls@sanitizesort
 \@gls@sanitizesort
 \else
 \@gls@nosanitizesort
 \fi
}

```

```

\fi
}
\newcommand*{\@@gls@sanitizesort{%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@@gls@nosanitizesort}{%}
\newcommand*{\@gls@noidx@sanitizesort{%
 \ifdefvoid\@glo@sort
 }{%
 {%
 \expandafter\@@gls@noidx@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@@gls@noidx@sanitizesort#1#2\gls@end@sanitizesort{%
 \def\@glo@sort{#1#2}%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@@gls@noidx@nosanitizesort}{%
 \ifdefvoid\@glo@sort
 }{%
 {%
 \expandafter\@@gls@noidx@no@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@@gls@noidx@no@sanitizesort#1#2\gls@end@sanitizesort{%
 \bgroup
 \glsnoidxstripaccents
 \protected@xdef\@glo@sort{#1#2}%
 \egroup
 \let\@glo@sort\@glo@sort
}
\newcommand*{\glsnoidxstripaccents{%
 \let\IeC\@firstofone
 \let\add@accent@\@secondoftwo
 \let\@text@composite@x@\@secondoftwo
 \let\@tabacckludge@\@secondoftwo
 \expandafter\def\csname \encodingdefault-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname OT1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname T1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname PD1-cmd\endcsname##1##2##3{##3}%
 \let'\@firstofone
 \let'\@firstofone
 \let^\@firstofone
 \let"@@firstofone
 \let\u\@firstofone
 \let\t\@firstofone
 \let\d\@firstofone
 \let\r\@firstofone
 \let=\@firstofone
 \let.\@firstofone

```

```

\let~\@firstofone
\let\v\@firstofone
\let\H\@firstofone
\let\c\@firstofone
\let\b\@firstofone
\let\a\@secondoftwo
\def\AE{AE}%
\def\ae{ae}%
\def\OE{OE}%
\def\oe{oe}%
\def\AA{AA}%
\def\aa{aa}%
\def\L{L}%
\def\l{l}%
\def\O{O}%
\def\o{o}%
\def\SS{SS}%
\def\ss{ss}%
\def\th{th}%
\def\TH{TH}%
\def\dh{dh}%
\def\DH{DH}%
}
\@ifl@t@r\fmtversion{2019/10/01}
{%
\appto\glsnoidxstripaccents{\let\UTFviii@two@octets\UTFviii@two@octets@combine}%
}
{}
\define@boolkey[gls]{sanitize}{description}[true]{%
\GlossariesWarning{sanitize={description} package option deprecated}%
\ifgls@sanitize@description
\glssetnoexpandfield{desc}%
\glssetnoexpandfield{descplural}%
\else
\glssetexpandfield{desc}%
\glssetexpandfield{descplural}%
\fi
}
\define@boolkey[gls]{sanitize}{name}[true]{%
\GlossariesWarning{sanitize={name} package option deprecated}%
\ifgls@sanitize@name
\glssetnoexpandfield{name}%
\else
\glssetexpandfield{name}%
\fi
}
\define@boolkey[gls]{sanitize}{symbol}[true]{%
\GlossariesWarning{sanitize={symbol} package option deprecated}%
\ifgls@sanitize@symbol
\glssetnoexpandfield{symbol}%

```

```

 \glsssetnoexpandfield{symbolplural}%
 \else
 \glsssetexpandfield{symbol}%
 \glsssetexpandfield{symbolplural}%
 \fi
}
\define@boolkey{glossaries.sty}[gls]{sanitizesort}[true]{%
 \ifglsssanitizesort
 \glsssetnoexpandfield{sortvalue}%
 \renewcommand*{\@gls@noidx@setsanitizesort}{%
 \glsssanitizesorttrue
 \glsssetnoexpandfield{sortvalue}%
 }%
 \else
 \glsssetexpandfield{sortvalue}%
 \renewcommand*{\@gls@noidx@setsanitizesort}{%
 \glsssanitizesortfalse
 \glsssetexpandfield{sortvalue}%
 }%
 \fi
}
\glsssanitizesorttrue
\glsssetnoexpandfield{sortvalue}%
\newcommand*{\@gls@noidx@setsanitizesort}{%
 \glsssanitizesortfalse
 \glsssetexpandfield{sortvalue}%
}
\define@choicekey[gls]{sanitize}{sort}{true,false}[true]{%
 \setbool{glsssanitizesort}{#1}%
 \ifglsssanitizesort
 \glsssetnoexpandfield{sortvalue}%
 \else
 \glsssetexpandfield{sortvalue}%
 \fi
}
\GlossariesWarning{sanitize={sort} package option
 deprecated. Use sanitizesort instead}%
}
\define@key{glossaries.sty}{sanitize}[description=true,symbol=true,name=true]{%
 \ifthenelse{\equal{#1}{none}}{%
 {%
 \GlossariesWarning{sanitize package option deprecated}%
 \glsssetexpandfield{name}%
 \glsssetexpandfield{symbol}%
 \glsssetexpandfield{symbolplural}%
 \glsssetexpandfield{desc}%
 \glsssetexpandfield{descplural}%
 }%
 }%
 \setkeys[gls]{sanitize}{#1}%
}%

```

```

}
\newif\ifglstranslate
\newcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 }%
 }%
 {}%
}%
}
\newcommand{\glsifusedtranslatordict}[3]{%
 \glsifusetranslator
 {\ifcsdef{ver@glossaries-dictionary-#1.dict}{#2}{#3}}%
 {#3}%
}
\@gls@declareoption{nottranslate}{%
 \glstranslatefalse
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
}
\define@choicekey{glossaries.sty}{translate}%
 [\gls@translate@val\gls@translate@nr]%
 {true,false,babel}[true]%
 {%
 \ifcase\gls@translate@nr\relax
 \glstranslatetrue
 \renewcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 }%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 }%
 }%
 {}%
}

```

```

 }%
 {}%
 }%
}
\or
\glstranslatefalse
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
\or
\glstranslatetrue
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
\fi
}
\glstranslatefalse
\let\glsifusetranslator\@secondoftwo
\@ifpackageloaded{translator}%
{%
\glstranslatetrue
\let\glsifusetranslator\@firstoftwo
}%
{%
\@for\gls@thissty:=tracklang,babel,ngerman,polyglossia\do
{
\@ifpackageloaded{\gls@thissty}%
{%
\glstranslatetrue
\@endfortrue
}%
{}%
}
}
\define@boolkey{glossaries.sty}[gls]{indexonlyfirst}[true]{}
\glsindexonlyfirstfalse
\define@boolkey{glossaries.sty}[gls]{hyperfirst}[true]{}
\glshyperfirsttrue
\newcommand*{\@gls@setacrstyle}{}
\define@boolkey{glossaries.sty}[glsacr]{footnote}[true]{%
\ifbool{glsacrdescription}%
{}%
{%
\renewcommand*{\@gls@sanitizedesc}{}}%
}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{description}[true]{%
\renewcommand*{\@gls@sanitizesymbol}{}}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{smallcaps}[true]{%

```

```

\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{smaller}[true]{%
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{dua}[true]{%
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{shortcuts}[true]{}
\newcommand*{\glsorder}{word}
\newcommand*{\@glsorder}[1]{}
\define@choicekey{glossaries.sty}{order}{word,letter}{%
\def\glsorder{#1}}
\newif\ifglsxindy
\glsxindyfalse
\@gls@declareoption{makeindex}{\glsxindyfalse}
\define@boolkey[gls]{xindy}{glsnumbers}[true]{}
\glsxindy@glsnumberstrue
\def\@xdy@main@language{\languagename}%
\define@key[gls]{xindy}{language}{\def\@xdy@main@language{#1}}
\ifcsundef{inputencodingname}{%
\def\gls@codepage{}}%
\def\gls@codepage{\inputencodingname}
}
\define@key[gls]{xindy}{codepage}{\def\gls@codepage{#1}}
\define@key{glossaries.sty}{xindy}[]{}%
\glsxindytrue
\setkeys[gls]{xindy}{#1}%
}
\@gls@declareoption{xindygloss}{%
\glsxindytrue
}
}
\@gls@declareoption{xindynoglsnumbers}{%
\glsxindytrue
\glsxindy@glsnumbersfalse
}
\providecommand{\@domakeglossaries}[1]{#1}
\@gls@declareoption{disablemakegloss}{%
\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makenoidxglossaries\space has already been used)}}%
}%
{%
\ifdefequal\@makeglossary\@gobble
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect

```

```

 (\string\makeglossaries\space has already been used)}%
 }%
 {%
 \renewcommand{\@domakeglossaries}[1]{%
 \PackageInfo{glossaries}{\string\makeglossaries\space and
 \string\makenoidxglossaries\space have been disabled}%
 }%
 }%
 }%
}
\@gls@declareoption{restoremakegloss}{%
 \ifdefequal\makeglossaries\@no@makeglossaries
 {%
 \GlossariesWarning{Option ‘restoremakegloss’ has no effect
 (\string\makenoidxglossaries\space has already been used)}%
 }%
 {%
 \ifdefequal\@makeglossary\@gobble
 {%
 \GlossariesWarning{Option ‘restoremakegloss’ has no effect
 (\string\makeglossaries\space has already been used)}%
 }%
 {%
 \PackageInfo{glossaries}{\string\makeglossaries\space and
 \string\makenoidxglossaries\space have been restored}%
 \let\@domakeglossaries\@firstofone
 }%
 }%
}
}
\newcommand*\@do@write@glslabels{%
 \AtEndDocument{\@do@write@glslabels}%
 \let\@do@write@glslabels\relax
}
\newcommand*\@do@write@glslabels@{%
 \newwrite\@gls@labelsfile
 \immediate\openout\@gls@labelsfile=\jobname.glslabels
 \forallglsentries[\@glo@types,\@ignored@glossaries]{\@glsentry}%
 {\ifdefempty{\@glsentry}{\immediate\write\@gls@labelsfile{\@glsentry}}}%
 \immediate\closeout\@gls@labelsfile
}
\@gls@declareoption{writeglslabels}{\@do@write@glslabels}
\newif\ifglsautomake
\newcommand{\gls@automake@nr}{1}
\define@choicekey{glossaries.sty}{automake}%
 [\gls@automake@val\gls@automake@nr]{true,false,immediate}[true]{%
 \ifnum\gls@automake@nr=1\relax
 \glsautomakefalse
 \else
 \glsautomaketrue
 \fi
}

```



```

\ifglsautomake
 \renewcommand*{\@gls@doautomake}{%
 \PackageError{glossaries}{You must use
 \string\makeglossaries\space with automake=true}
 {%
 Either remove the automake=true setting or
 add \string\makeglossaries\space to your document preamble.%
 }%
 }%
\else
 \renewcommand*{\@gls@doautomake}{}%
\fi
}
\glsautomakefalse
\newcommand*{\@gls@doautomake}{}
\AtEndDocument{\@gls@doautomake}
\define@boolkey{glossaries.sty}[gls]{savewrites}[true]{%
 \ifgls savewrites
 \renewcommand*{\glswritefiles}{\@glswritefiles}%
 \else
 \let\glswritefiles\@empty
 \fi
}
\gls savewritesfalse
\let\glswritefiles\@empty
\define@boolkey{glossaries.sty}[gls]{compatible-3.07}[true]{%
\boolfalse{glscompatible-3.07}
\define@boolkey{glossaries.sty}[gls]{compatible-2.07}[true]{%
 \ifbool{glscompatible-2.07}%
 {%
 \booltrue{glscompatible-3.07}%
 }%
 {}%
}
\boolfalse{glscompatible-2.07}
\let\gls@original@makeglossary\makeglossary
\let\gls@original@glossary\glossary
\def\makeglossary{%
 \GlossariesWarning{Use of \string\makeglossary\space with
glossaries.sty is \MessageBreak deprecated. Use \string\makeglossaries\space
instead. If you \MessageBreak need the original definition of
\string\makeglossary\space use \MessageBreak the package options
kernelglossredefs=false (to \MessageBreak restore the former definition of
\string\makeglossary) and \MessageBreak nomain (if the file extensions cause a
conflict)}}%
\makeglossaries
}
\newcommand*{\@gls@override@glossary}[1][main]{%
 \GlossariesWarning{Use of \string\glossary\space with
glossaries.sty is deprecated. \MessageBreak Indexing should be performed

```

```

with the user level \MessageBreak commands, such as \string\gls\space or
\string\glsadd. If you need the \MessageBreak original definition of
\string\glossary\space use the package \MessageBreak options
kernelglossredefs=false (to restore the \MessageBreak former definition of
\string\glossary) and nomain (if the \MessageBreak file extensions cause a
conflict)}%
\gls@glossary{#1}%
}
\if@gls@docloaded
\else
\def\glossary{\@gls@override@glossary}
\fi
\define@choicekey{glossaries.sty}{kernelglossredefs}%
[\gls@debug@val\gls@debug@nr]{true,false,nowarn}[true]%
{%
\ifcase\gls@debug@nr\relax
\def\glossary{\@gls@override@glossary}%
\def\makeglossary{%
\GlossariesWarning{Use of \string\makeglossary\space with
glossaries.sty is deprecated. Use \string\makeglossaries\space
instead. If you need the original definition of
\string\makeglossary\space use the package options
kernelglossredefs=false (to prevent redefinition of
\string\makeglossary) and nomain (if the file extensions cause a
conflict)}%
\makeglossaries
}%
\or
\let\glossary\gls@original@glossary
\let\makeglossary\gls@original@makeglossary
\or
\def\makeglossary{\makeglossaries}%
\renewcommand*{\@gls@override@glossary}[1][main]{%
\gls@glossary{##1}%
}%
\fi
}
\@gls@declareoption{symbols}{%
\let\@gls@do@symbolsdef\@gls@symbolsdef
}
\newcommand*{\@gls@do@symbolsdef}{}
\newcommand*{\@gls@symbolsdef}{%
\newglossary[slg]{symbols}{sls}{slo}{\glssymbolsgroupname}%
\newcommand*{\printsymbols}[1][\printglossary[type=symbols,##1]}%
\newcommand*{\gls@tr@set@symbols@toctitle}{%
\translatelet{\glossarytoctitle}{Symbols (glossaries)}%
}%
}%
\@gls@declareoption{numbers}{%
\let\@gls@do@numbersdef\@gls@numbersdef

```

```

}
\newcommand*{\@gls@do@numbersdef}{}
\newcommand*{\@gls@numbersdef}{%
 \newglossary[nlg]{numbers}{nls}{nlo}{\glsnumbersgroupname}%
 \newcommand*{\printnumbers}[1][\printglossary[type=numbers,##1]]{%
 \newcommand*{\gls@tr@set@numbers@toctitle}{%
 \translatelet{\glossarytoctitle}{Numbers (glossaries)}}%
 }%
}%
\@gls@declareoption{index}{%
 \ifx\@gls@do@indexdef\@empty
 \let\@gls@do@indexdef\@gls@indexdef
 \fi
}
\@gls@declareoption{noglossaryindex}{%
 \let\@gls@do@indexdef\relax
}
\newcommand*{\@gls@do@indexdef}{}
\newcommand*{\@gls@indexdef}{%
 \newglossary[ilg]{index}{ind}{idx}{\indexname}%
 \newcommand*{\printindex}[1][\printglossary[type=index,##1]]{%
 \newcommand*{\newterm}[2][%
 \newglossaryentry{##2}{%
 {type={index},name={##2},description={\nopostdesc},##1}}
 \let\@gls@do@indexdef\relax
}%
}%
\@for\CurrentOption :=\@declaredoptions\do{%
 \ifx\CurrentOption\@empty
 \else
 \@expandtwoargs
 \in@ {,\CurrentOption ,}{,\@classoptionslist,\@curroptions,}%
 \ifin@
 \@use@ption
 \expandafter \let\csname ds@\CurrentOption\endcsname\@empty
 \fi
 \fi
}
\ProcessOptionsX
\RequirePackage{glossaries-compatible-307}[v4.46]
\disable@keys{glossaries.sty}{compatible-2.07,%
xindy,xindygloss,xindynoglsnumbers,makeindex,%
acronym,translate,notranslate,nolong,nosuper,notree,nostyles,%
nomain,noglossaryindex}
\newcommand*{\setupglossaries}[1]{%
 \renewcommand*{\@gls@setacrstyle}{}%
 \ifglsacrshortcuts
 \def\@gls@setupshortcuts{\glsacrshortcutstrue}%
 \else
 \def\@gls@setupshortcuts{%
 \ifglsacrshortcuts

```

```

 \DefineAcronymSynonyms
 \fi
 }%
\fi
\glsacrshortcutsfalse
\let\@gls@do@numbersdef\relax
\let\@gls@do@symbolssdef\relax
\let\@gls@do@indexdef\relax
\let\@gls@do@acronymsdef\relax
\ifglsentrycounter
 \let\@gls@doentrycounterdef\relax
\else
 \let\@gls@doentrycounterdef\@gls@define@glossaryentrycounter
\fi
\ifglssubentrycounter
 \let\@gls@dosubentrycounterdef\relax
\else
 \let\@gls@dosubentrycounterdef\@gls@define@glossarysubentrycounter
\fi
\setkeys{glossaries.sty}{#1}%
\@gls@setacrstyle
\@gls@setupshortcuts
\@gls@do@acronymsdef
\@gls@do@numbersdef
\@gls@do@symbolssdef
\@gls@do@indexdef
\@gls@doentrycounterdef
\@gls@dosubentrycounterdef
}
\ifthenelse{\equal{\glscounter}{section}}%
{%
 \ifcsundef{chapter}{}%
 {%
 \let\@gls@old@chapter\@chapter
 \def\@chapter[#1]#2{\@gls@old@chapter[#1]}{#2}%
 \ifcsundef{hyperdef}{\hyperdef{section}{\thesection}}{}%
 }%
}%
{}
\newcommand*\@gls@onlypremakeg{}
\newcommand*\@onlypremakeg[1]{%
 \ifx\@gls@onlypremakeg\@empty
 \def\@gls@onlypremakeg{#1}%
 \else
 \expandafter\toks@\expandafter{\@gls@onlypremakeg}%
 \edef\@gls@onlypremakeg{the\toks@,\noexpand#1}%
 \fi
}
\newcommand*\@disable@onlypremakeg{}
\@for\@thiscs:=\@gls@onlypremakeg\do{%

```

```

\expandafter\@disable@premakecs\@thiscs%
}}
\newcommand*\@disable@premakecs}[1]{%
 \def#1{\PackageError{glossaries}{\string#1\space may only be
 used before \string\makeglossaries}{You can't use
 \string#1\space after \string\makeglossaries}}%
}
\providecommand*\glossaryname{Glossary}
\providecommand*\acronymname{Acronyms}
\newcommand*\glssettoctitle}[1]{%
 \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}
\providecommand*\entryname{Notation}
\providecommand*\descriptionname{Description}
\providecommand*\symbolname{Symbol}
\providecommand*\pagelistname{Page List}
\providecommand*\glsymbolsgroupname{Symbols}
\providecommand*\glsnumbersgroupname{Numbers}
\newcommand*\glspluralsuffix}{s}
\newcommand*\glsacrpluralsuffix}{\glspluralsuffix}
\newcommand*\glsupacrpluralsuffix}{\glstextup{\glsacrpluralsuffix}}
\providecommand*\seename}{see}
\providecommand*\andname}{\&}
\newcommand*\RequireGlossariesLang}[1]{%
 \ifundefined{ver@glossaries-#1.1df}{\input{glossaries-#1.1df}}{}}%
}
\newcommand*\ProvidesGlossariesLang}[1]{%
 \ProvidesFile{glossaries-#1.1df}%
}
\newcommand*\addglossarytocaptions}[1]{}
\ifglstranslate
 \RequirePackage{tracklang}
 \@gls@usetranslator
 \@ifpackageloaded{translator}
 {%
 \ifboolexpr
 {
 test {\ifdefstring{\trans@languages}{English}}
 and not
 test {\ifdefstring{bbl@loaded}{english}}
 }
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \usedictionary{glossaries-dictionary}%
 \renewcommand*\addglossarytocaptions}[1]{%
 \ifcsundef{captions#1}{}%
 {%
 \expandafter\let\expandafter\@gls@tmp\csname captions#1\endcsname
 \expandafter\toks@\expandafter{\@gls@tmp

```

```

 \renewcommand*{\glossaryname}{\translate{Glossary}}%
 }%
 \expandafter\edef\csname captions#1\endcsname{\the\toks@}%
 }%
} %
} %
{} %
\AnyTrackedLanguages
{ %
 \ForEachTrackedDialect{\this@dialect}{ %
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 { %
 \RequireGlossariesLang{\CurrentTrackedTag}%
 } %
 { %
 \@gls@missinglang@warn\this@dialect\CurrentTrackedLanguage
 } %
 } %
} %
{} %
\glsifusetranslator
{ %
 \renewcommand*{\glssettoctitle}[1]{ %
 \ifcsdef{gls@tr@set@#1@toctitle}%
 { %
 \csuse{gls@tr@set@#1@toctitle}%
 } %
 { %
 \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}%
 } %
 } %
 \renewcommand*{\glossaryname}{\translate{Glossary}}%
 \renewcommand*{\acronymname}{\translate{Acronyms}}%
 \renewcommand*{\entryname}{\translate{Notation (glossaries)}}%
 \renewcommand*{\descriptionname}{ %
 \translate{Description (glossaries)}}%
 \renewcommand*{\symbolname}{\translate{Symbol (glossaries)}}%
 \renewcommand*{\pagelistname}{ %
 \translate{Page List (glossaries)}}%
 \renewcommand*{\glssymbolsgroupname}{ %
 \translate{Symbols (glossaries)}}%
 \renewcommand*{\glsnumbersgroupname}{ %
 \translate{Numbers (glossaries)}}%
} %
} %
\fi
\DeclareRobustCommand*{\nopostdesc}{ }
\newcommand*{\@nopostdesc}{ %

```

```

\let\org@glspostdescription\glspostdescription
\def\glspostdescription{%
 \let\glspostdescription\org@glspostdescription}%
}
\newcommand*\@no@post@desc{}\nopostdesc}
\newcommand{\glspar}{\par}
\newcommand{\setStyleFile}[1]{%
 \renewcommand*\glstfilebase{#1}%
 \ifglxindy
 \def\istfilename{\glstfilebase.xdy}
 \else
 \def\istfilename{\glstfilebase.ist}
 \fi
}
\@onlypremakeg\setStyleFile
\ifglxindy
 \def\istfilename{\glstfilebase.xdy}
\else
 \def\istfilename{\glstfilebase.ist}
\fi
\newcommand*\glstfilebase{\jobname}
\newcommand*\@istfilename}[1]{
\newcommand*\glscpositor}{.}
\newcommand*\glstSetCompositor}[1]{%
 \renewcommand*\glscpositor{#1}}
\@onlypremakeg\glstSetCompositor
\newcommand*\@glstAlphacompositor{\glscpositor}
\ifglxindy
 \newcommand*\glstSetAlphaCompositor[1]{%
 \renewcommand*\@glstAlphacompositor{#1}}
\else
 \newcommand*\glstSetAlphaCompositor[1]{%
 \glstnoxywarning\glstSetAlphaCompositor}
\fi
\@onlypremakeg\glstSetAlphaCompositor
\newcommand*\glstsuffixF{}
\newcommand*\glstSetSuffixF}[1]{%
 \renewcommand*\glstsuffixF{#1}}
\@onlypremakeg\glstSetSuffixF
\newcommand*\glstsuffixFF{}
\newcommand*\glstSetSuffixFF}[1]{%
 \renewcommand*\glstsuffixFF{#1}}
}
\ifcsundef{hyperlink}%
{%
 \newcommand*\glstnumberformat}[1]{#1}%
}%
{%
 \newcommand*\glstnumberformat}[1]{\glsthypernumber{#1}}%
}

```

```

\newcommand{\delimN}{, }
\newcommand{\delimR}{--}
\newcommand*{\glossarypreamble}{%
 \csuse{@glossarypreamble@\currentglossary}%
}
\newcommand{\setglossarypreamble}[2][\glsdefaultttype]{%
 \ifglossaryexists*{#1}%
 {\csgdef{@glossarypreamble@#1}{#2}}%
 {\GlossariesWarning{Glossary ‘#1’ is not defined}}%
}
\newcommand*{\glossarypostamble}{}
\newcommand*{\glossarysection}[2][\@gls@title]{%
 \def\@gls@title{#2}%
 \ifcsundef{phantomsection}%
 {%
 \@glossarysection{#1}{#2}%
 }%
 {%
 \@p@glossarysection{#1}{#2}%
 }%
 \gls@glossarymark{\glossarytoctitle}%
}
\ifcsundef{glossarymark}%
{%
 \newcommand{\gls@glossarymark}[1]{\glossarymark{#1}}
}%
{%
 \@ifclassloaded{memoir}
 {%
 \newcommand{\gls@glossarymark}[1]{%
 \ifglsucmark
 \markboth{\memUHead{#1}}{\memUHead{#1}}%
 \else
 \markboth{#1}{#1}%
 \fi
 }
 }%
 {%
 \newcommand{\gls@glossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\mfirstucMakeUppercase{#1}}{\mfirstucMakeUppercase{#1}}%
 \else
 \@mkboth{#1}{#1}%
 \fi
 }
 }
}
\providecommand{\glossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\mfirstucMakeUppercase{#1}}{\mfirstucMakeUppercase{#1}}%

```



```

\else
 \@mkboth{#1}{#1}%
\fi
}
\newcommand*\setglossarysection[1]{%
\setkeys{glossaries.sty}{section=#1}}
\newcommand*\@glossarysection[2]{%
\ifdefempty\@glossarysecstar
{%
 \csname\@glossarysec\endcsname[#1]{#2}%
}%
{%
 \csname\@glossarysec\endcsname*{#2}%
 \gls@toc{#1}{\@glossarysec}%
}%
\@glossaryseclabel
}
\newcommand*\@pglossarysection[2]{%
\glsclearpage
\phantomsection
\ifdefempty\@glossarysecstar
{%
 \csname\@glossarysec\endcsname{#2}%
}%
{%
 \gls@toc{#1}{\@glossarysec}%
 \csname\@glossarysec\endcsname*{#2}%
}%
\@glossaryseclabel
}
\newcommand*\gls@docclearpage{%
\ifthenelse{\equal{\@glossarysec}{chapter}}{%
{%
 \ifcsundef{cleardoublepage}%
 {%
 \clearpage
 }%
 {%
 \ifcsdef{if@openright}%
 {%
 \if@openright
 \cleardoublepage
 \else
 \clearpage
 \fi
 }%
 }%
 \cleardoublepage
}%
}

```

```

}%
}%
}
\newcommand*\glsclearpage{\gls@doclearpage}
\newcommand*\@gls@toc}[2]{%
 \ifglstoc
 \ifglsnumberline
 \addcontentsline{toc}{#2}{\protect\numberline{#1}}%
 \else
 \addcontentsline{toc}{#2}{#1}%
 \fi
 \fi
}
\newcommand*\glsnoxindywarning}[1]{%
 \GlossariesWarning{Not in xindy mode --- ignoring \string#1}%
}
\newcommand*\glsnomakeindexwarning}[1]{%
 \GlossariesWarning{Not in makeindex mode --- ignoring \string#1}%
}
\ifglsxindy
 \edef\xdyattributes{\string"default\string"}%
\fi
\ifglsxindy
 \edef\xdyattributelist{}%
\fi
\ifglsxindy
 \def\xdylocref{}
\fi
\newcommand*\@gls@ifinlist}[4]{%
 \def\@do@ifinlist##1,#1,##2\end@doifinlist{%
 \def\@gls@listsuffix{##2}%
 \ifx\@gls@listsuffix\@empty
 #4%
 \else
 #3%
 \fi
 }%
 \@do@ifinlist,#2,#1,\end@doifinlist
}
\ifglsxindy
 \newcommand*\@xdycounters{\glscounter}
 \newcommand*\GlsAddXdyCounters[1]{%
 \@for\@gls@ctr:=#1\do{%
 \edef\@do@addcounter{%
 \noexpand\@gls@ifinlist{\@gls@ctr}{\@xdycounters}{}%
 {%
 \noexpand\edef\noexpand\@xdycounters{\@xdycounters,%
 \noexpand\@gls@ctr}%
 }%
 }%
 }%
 }%

```

```

 \do@addcounter
 }
}
\@onlypremakeg\GlsAddXdyCounters
\else
\newcommand*\GlsAddXdyCounters[1]{%
\glsnoxywarning\GlsAddXdyAttribute
}
\fi
\newcommand*\@disabled@glssaddxdycounters{%
\PackageError{glossaries}{\string\GlsAddXdyCounters\space
can't be used after \string\GlsAddXdyAttribute}{Move all
occurrences of \string\GlsAddXdyCounters\space before the first
instance of \string\GlsAddXdyAttribute}%
}
\ifglxsindy
\newcommand*\@glssaddxyattribute[2]{%
\edef\@xdyattributes{\@xdyattributes ^^J \string"#1\string" ^^J
\string"#2#1\string"}%
\expandafter\toks@\expandafter{\@xdylocref}%
\edef\@xdylocref{\the\toks@ ^^J%
(markup-locref
:open \string"\glstildechar n%
\expandafter\string\csname glsX#2X#1\endcsname
\string" ^^J
:close \string"\string" ^^J
:attr \string"#2#1\string")}%
\expandafter\gdef\csname glsX#2X#1\endcsname##1##2{%
\setentrycounter[##1]{##2}\csname #1\endcsname{##2}%
}%
}
\newcommand*\GlsAddXdyAttribute[1]{%
\ifx\@xdyattributelist\@empty
\edef\@xdyattributelist{#1}%
\else
\edef\@xdyattributelist{\@xdyattributelist,#1}%
\fi
\@for\@this@counter:=\@xdycounters\do{%
\protected@edef\gls@do@addxyattribute{%
\noexpand\@glssaddxyattribute{#1}{\@this@counter}%
}
\gls@do@addxyattribute
}%
\let\GlsAddXdyCounters\@disabled@glssaddxdycounters
}
\@onlypremakeg\GlsAddXdyAttribute
\else
\newcommand*\GlsAddXdyAttribute[1]{%
\glsnoxywarning\GlsAddXdyAttribute}
\fi

```

```

\ifglxindy
\newcommand*{\@gls@addpredefinedattributes}{%
 \GlsAddXdyAttribute{glsnumberformat}
 \GlsAddXdyAttribute{textrm}
 \GlsAddXdyAttribute{textsf}
 \GlsAddXdyAttribute{texttt}
 \GlsAddXdyAttribute{textbf}
 \GlsAddXdyAttribute{textmd}
 \GlsAddXdyAttribute{textit}
 \GlsAddXdyAttribute{textup}
 \GlsAddXdyAttribute{textsl}
 \GlsAddXdyAttribute{textsc}
 \GlsAddXdyAttribute{emph}
 \GlsAddXdyAttribute{glsnumber}
 \GlsAddXdyAttribute{hyperm}
 \GlsAddXdyAttribute{hypersf}
 \GlsAddXdyAttribute{hypertt}
 \GlsAddXdyAttribute{hyperbf}
 \GlsAddXdyAttribute{hypermd}
 \GlsAddXdyAttribute{hyperit}
 \GlsAddXdyAttribute{hyperup}
 \GlsAddXdyAttribute{hypersl}
 \GlsAddXdyAttribute{hypersc}
 \GlsAddXdyAttribute{hyperemph}
 \GlsAddXdyAttribute{glsignore}
}
\else
 \let\@gls@addpredefinedattributes\relax
\fi
\def\@xdyuseralphabets{}
\ifglxindy
 \newcommand*{\GlsAddXdyAlphabet}[2]{%
 \edef\@xdyuseralphabets{%
 \@xdyuseralphabets ^^J
 (define-alphabet "#1" (#2))}
 \else
 \newcommand*{\GlsAddXdyAlphabet}[2]{%
 \glsnoxywarning\GlsAddXdyAlphabet}
 \fi
\ifglxindy
 \newcommand*{\@gls@xdy@locationlist}{%
 roman-page-numbers,%
 Roman-page-numbers,%
 arabic-page-numbers,%
 alpha-page-numbers,%
 Alpha-page-numbers,%
 Appendix-page-numbers,%
 arabic-section-numbers%
 }
\protected@edef\@gls@roman{\@roman{0}\string"

```

```

 \string"roman-numbers-lowercase\string" :sep \string"}}%
\@onelevel@sanitize\@gls@roman
\edef\@tmp{\string" \string"roman-numbers-lowercase\string"
:sep \string}}%
\@onelevel@sanitize\@tmp
\ifx\@tmp\@gls@roman
\expandafter
\edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
\string"roman-numbers-lowercase\string"%
}%
\else
\expandafter
\edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{
:sep \string"\@gls@roman\string"%
}%
\fi
\expandafter\def\csname @gls@xdy@Lclass@Roman-page-numbers\endcsname{%
\string"roman-numbers-uppercase\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@arabic-page-numbers\endcsname{%
\string"arabic-numbers\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@alpha-page-numbers\endcsname{%
\string"alpha\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Alpha-page-numbers\endcsname{%
\string"ALPHA\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Appendix-page-numbers\endcsname{%
\string"ALPHA\string"
:sep \string"\@gls@Alphacompositor\string"
\string"arabic-numbers\string"%
}
\expandafter\def\csname @gls@xdy@Lclass@arabic-section-numbers\endcsname{%
\string"arabic-numbers\string"
:sep \string"\glscompositor\string"
\string"arabic-numbers\string"%
}%
\def\@xdyuserlocationdefs{}
\def\@xdyuserlocationnames{}
\fi
\ifglsxindy
\newcommand\@xdycrossrefhook{}
\fi
\ifglsxindy
\newcommand*\GlsAddXdyLocation}[3][[]]{%
\def\@gls@tmp{#1}%
\ifx\@gls@tmp\@empty
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%

```

```

 (define-location-class \string"#2\string"^^J\space\space
 \space(:sep \string"{}\glsoopenbrace\string" #3
 :sep \string"\glsclosebrace\string"))
 }%
\else
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep "\glsoopenbrace"
#1
:sep "\glsclosebrace\glsoopenbrace" #3
:sep "\glsclosebrace"))
}%
\fi
\edef\@xdyuserlocationnames{%
\@xdyuserlocationnames^^J\space\space\space
\string"#2\string"}%
}
\@onlypremakeg\GlsAddXdyLocation
\else
\newcommand*\GlsAddXdyLocation[2]{%
\glsnoinxindwarning\GlsAddXdyLocation}
\fi
\ifglxindy
\def\@xdylocationclassorder{^^J\space\space\space
\string"roman-page-numbers\string"^^J\space\space\space
\string"arabic-page-numbers\string"^^J\space\space\space
\string"arabic-section-numbers\string"^^J\space\space\space
\string"alpha-page-numbers\string"^^J\space\space\space
\string"Roman-page-numbers\string"^^J\space\space\space
\string"Alpha-page-numbers\string"^^J\space\space\space
\string"Appendix-page-numbers\string"
\@xdyuserlocationnames^^J\space\space\space
\string"see\string"
}
\fi
\ifglxindy
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\def\@xdylocationclassorder{#1}}
\else
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\glsnoinxindwarning\GlsSetXdyLocationClassOrder}
\fi
\fi
\ifglxindy
\def\@xdysortrules{}
\fi
\ifglxindy
\newcommand*\GlsAddSortRule[2]{%
\expandafter\toks@\expandafter{\@xdysortrules}%
\protected@edef\@xdysortrules{\the\toks@ ^^J

```

```

 (sort-rule \string"#1\string" \string"#2\string"))}%
 }
\else
 \newcommand*\GlsAddSortRule[2]{%
 \glsnoxywarning\GlsAddSortRule}
\fi
\ifglxindy
 \def\@xdyrequiredstyles{tex}
\fi
\ifglxindy
 \newcommand*\GlsAddXdyStyle[1]{%
 \edef\@xdyrequiredstyles{\@xdyrequiredstyles,#1}}%
\else
 \newcommand*\GlsAddXdyStyle[1]{%
 \glsnoxywarning\GlsAddXdyStyle}
\fi
\ifglxindy
 \newcommand*\GlsSetXdyStyles[1]{%
 \edef\@xdyrequiredstyles{#1}}
\else
 \newcommand*\GlsSetXdyStyles[1]{%
 \glsnoxywarning\GlsSetXdyStyles}
\fi
\newcommand*\findrootlanguage{}
\def\@xdy@language#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyLanguage[2][\glsdefaulttype]{%
 \ifglossaryexists{#1}{%
 \expandafter\def\csname @xdy@#1@language\endcsname{#2}%
 }{%
 \PackageError{glossaries}{Can't set language type for
 glossary type '#1' --- no such glossary}{%
 You have specified a glossary type that doesn't exist}}
\else
 \newcommand*\GlsSetXdyLanguage[2][{}]{%
 \glsnoxywarning\GlsSetXdyLanguage}
\fi
\def\@gls@codepage#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyCodePage[1]{%
 \renewcommand*\@gls@codepage{#1}%
 }
 \AtBeginDocument{%
 \ifx\@gls@codepage\@empty
 \ifpackageloaded{fontspec}{\def\@gls@codepage{utf8}}{}%
 \fi
 }
\else
 \newcommand*\GlsSetXdyCodePage[1]{%
 \glsnoxywarning\GlsSetXdyCodePage}

```

```

\fi
\ifglxsindy
 \ifglxs@xindy@glnumbers
 \def\@xdylettergroups{(define-letter-group
 \string"glnumbers\string"^^J\space\space\space
 :prefixes (\string"0\string" \string"1\string"
 \string"2\string" \string"3\string" \string"4\string"
 \string"5\string" \string"6\string" \string"7\string"
 \string"8\string" \string"9\string")^^J\space\space\space
 \@xdynumbergrouporder)}
 \else
 \def\@xdylettergroups{}
 \fi
 \fi
\fi
\newcommand*\GlsAddLetterGroup[2]{%
 \expandafter\toks@\expandafter{\@xdylettergroups}%
 \protected@edef\@xdylettergroups{\the\toks@^^J%
 (define-letter-group \string"#1\string"^^J\space\space\space#2)}%
 }%
\newcommand*\forallglossaries}[3][\@glo@types]{%
 \@for#2:=#1\do{\ifx#2\empty\else#3\fi}%
}

\newcommand*\forallacronyms}[2]{%
 \@for#1:=\@glsacronymlists\do{\ifx#1\empty\else#2\fi}%
}
\newcommand*\forallglsentries}[3][\@glsdefaulttype]{%
 \edef\@glo@list{\csname glolist@#1\endcsname}%
 \@for#2:=\@glo@list\do
 {%
 \ifdefempty{#2}{#3}%
 }%
}
\newcommand*\forallglsentries}[3][\@glo@types]{%
 \expandafter\forallglossaries\expandafter[#1]{\@@this@glo@}%
 {%
 \forallglsentries[\@@this@glo@]{#2}{#3}%
 }%
}
\newcommand{\ifglossaryexists}{%
 \@ifstar\s@ifglossaryexists\@ifglossaryexists
}
\newcommand{\@ifglossaryexists}[3]{%
 \ifcsundef{@glo@type@#1@out}{#3}{#2}%
}
\newcommand{\s@ifglossaryexists}[3]{%
 \ifcsundef{glolist@#1}{#3}{#2}%
}
\newcommand*\glsdetoklabel}[1]{#1}
\newcommand{\ifglsentryexists}[3]{%

```



```

\ifcsundef{glo@\glsdetoklabel{#1}@name}{#3}{#2}%
}
\newcommand*{\ifglsused}[3]{%
\ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}%
}
\newcommand{\glsdoifexists}[2]{%
\ifglsentryexists{#1}{#2}{%
\PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
has not been defined}{You need to define a glossary entry before you
can use it.}}%
}
\newcommand{\glsdoifnoexists}[2]{%
\ifglsentryexists{#1}{%
\PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’ has already
been defined}{}}#2}%
}
\newcommand{\glsdoifexistsorwarn}[2]{%
\ifglsentryexists{#1}{#2}{%
\GlossariesWarning{Glossary entry ‘\glsdetoklabel{#1}’
has not been defined}%
}%
}
\newcommand{\glsdoifexistsordo}[3]{%
\ifglsentryexists{#1}{#2}{%
\PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
has not been defined}{You need to define a glossary entry before you
can use it.}}%
#3%
}%
}
\newcommand{\doifglossarynoexistsordo}[3]{%
\ifglossaryexists*{#1}%
{%
\PackageError{glossaries}{Glossary type ‘#1’ already exists}{}%
#3%
}%
#2}%
}
\newrobustcmd{\ifglshaschildren}[3]{%
\glsdoifexists{#1}%
{%
\def\do@glshaschildren{#3}%
\edef@gl@thislabel{\glsdetoklabel{#1}}%
\expandafter\forglseries\expandafter
[\csname glo@\@gl@thislabel @type\endcsname]
{\glo@label}%
{%
\letcs\glo@parent{glo@\glo@label @parent}%
\ifdefequal\@gl@thislabel\glo@parent
{%

```

```

 \def\do@glshaschildren{#2}%
 \@endfortrue
 }%
 {}%
 }%
 \do@glshaschildren
}
}
\newcommand{\ifglshasparent}[3]{%
 \glsdoifexists{#1}%
 {%
 \ifcsempy{glo@\glsdetoklabel{#1}@parent}{#3}{#2}%
 }%
}
\newcommand*{\ifglshasdesc}[3]{%
 \ifcsempy{glo@\glsdetoklabel{#1}@desc}%
 {#3}%
 {#2}%
}
\newcommand*{\ifglshasdescsuppressed}[3]{%
 \ifcsequal{glo@\glsdetoklabel{#1}@desc}{@no@post@desc}%
 {#2}%
 {#3}%
}
\newrobustcmd*{\ifglshassymbol}[3]{%
 \letcs{\@glo@symbol}{glo@\glsdetoklabel{#1}@symbol}%
 \ifdefempty\@glo@symbol
 {#3}%
 {%
 \ifdefequal\@glo@symbol\@gls@default@value
 {#3}%
 {#2}%
 }%
}
\newrobustcmd*{\ifglshaslong}[3]{%
 \letcs{\@glo@long}{glo@\glsdetoklabel{#1}@long}%
 \ifdefempty\@glo@long
 {#3}%
 {%
 \ifdefequal\@glo@long\@gls@default@value
 {#3}%
 {#2}%
 }%
}
\newrobustcmd*{\ifglshasshort}[3]{%
 \letcs{\@glo@short}{glo@\glsdetoklabel{#1}@short}%
 \ifdefempty\@glo@short
 {#3}%
 {%
 \ifdefequal\@glo@short\@gls@default@value

```

```

 {#3}%
 {#2}%
 }%
}
\newrobustcmd*{\ifglshasfield}[4]{%
 \glsdoifexists{#2}%
 {%
 \letcs{\@glo@thisvalue}{glo@glstetoklabel{#2}@#1}%
 \ifdef\@glo@thisvalue
 {%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 }%
 {%
 \ifdefequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
}%
}%
{%
 \@gls@fetchfield{\@gls@thisfield}{#1}%
 \ifdef\@gls@thisfield
 {%
 \letcs{\@glo@thisvalue}{glo@glstetoklabel{#2}@#1}%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 }%
 {%
 \ifdefequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
}%
}%
}%
\GlossariesWarning{Unknown entry field '#1'}%
#4%
}%
}%

```

```

}%
}
\newcommand*\glscurrentfieldvalue}{
\newcommand*\@glo@types}{,}
\newcommand*\@gls@provide@newglossary{%
 \protected@write\@auxout{}\string\providecommand\string\@newglossary[4]{}%
 \let\@gls@provide@newglossary\relax
}
\newcommand*\defglsentryfmt}[2][\glsdefaulttype]{%
 \csgdef{gls@#1@entryfmt}{#2}%
}
\newcommand*\gls@doentryfmt}[1]{\csuse{gls@#1@entryfmt}}
\newcommand*\@gls@forbidtext}[1]{%
 \ifboolexpr{test {\ifdefstring{#1}{tex}}
 or test {\ifdefstring{#1}{TEX}}}
 {%
 \def#1{nottex}%
 \PackageError{glossaries}%
 {Forbidden '.tex' extension replaced with '.nottex'}%
 {I'm sorry, I can't allow you to do something so reckless.\MessageBreak
 Don't use '.tex' as an extension for a temporary file.}%
 }%
 {%
 }%
}
\newcommand*\@gls@gobbleopt}{\new@ifnextchar[{\@gls@gobbleopt}]}
\def\@gls@gobbleopt[#1]{
\newcommand*\@newglossary}{\@ifstar\s@newglossary\@ns@newglossary}
\newcommand*\@s@newglossary}[2]{%
 \ns@newglossary[#1-glg]{#1}{#1-gls}{#1-glo}{#2}%
}
\newcommand*\@ns@newglossary}[5][glg]{%
 \doifglossarynoexistsordo{#2}%
 {%
 \ifundef\glsdefaulttype
 {%
 \gdef\glsdefaulttype{#2}%
 }-}%
 \toks@{#2}\edef\@glo@types{\@glo@types\the\toks@,}%
 \expandafter\gdef\csname glolist@#2\endcsname{,}%
 \expandafter\edef\csname @glo@type@#2@log\endcsname{#1}%
 \expandafter\edef\csname @glo@type@#2@in\endcsname{#3}%
 \expandafter\edef\csname @glo@type@#2@out\endcsname{#4}%
 \expandafter\@gls@forbidtext\csname @glo@type@#2@log\endcsname
 \expandafter\@gls@forbidtext\csname @glo@type@#2@in\endcsname
 \expandafter\@gls@forbidtext\csname @glo@type@#2@out\endcsname
 \expandafter\def\csname @glo@type@#2@title\endcsname{#5}%
 \@gls@provide@newglossary
 \protected@write\@auxout{}\string\@newglossary{#2}{#1}{#3}{#4}%
 \ifcsundef{gls@#2@entryfmt}%

```

```

{%
 \defglsentryfmt[#2]{\glsentryfmt}%
}%
{}%
\@gls@defsortcount{#2}%
\@ifnextchar[{\@gls@setcounter{#2}}%
 {\@gls@setcounter{#2}[\glscounter]}%
}%
{%
 \gls@gobbleopt
}%
}
\newcommand*\altnewglossary}[3]{%
 \newglossary[#2-glg]{#1}{#2-gls}{#2-glo}{#3}%
}
\@onlypreamble{\newglossary}
\@onlypremakeg\newglossary
\newcommand*\@newglossary}[4]{}
\def\@gls@setcounter#1[#2]{%
 \expandafter\def\csname @glotype@#1@counter\endcsname{#2}%
 \ifglsxindy
 \GlsAddXdyCounters{#2}%
 \fi
}
\newcommand*\@gls@getcounter}[1]{%
 \csname @glotype@#1@counter\endcsname
}
\glsdefmain
\@gls@do@acronymsdef
\@gls@do@symbolsdef
\@gls@do@numbersdef
\@gls@do@indexdef
\newcommand*\newignoredglossary}[1]{%
 \ifdefempty\@ignored@glossaries
 {%
 \edef\@ignored@glossaries{#1}%
 }%
 {%
 \eappto\@ignored@glossaries{,#1}%
 }%
 \csgdef{glolist@#1}{,}%
 \ifcsundef{gls@#1@entryfmt}%
 {%
 \defglsentryfmt[#1]{\glsentryfmt}%
 }%
 {}%
 \ifdefempty\@gls@nohyperlist
 {%
 \renewcommand*\@gls@nohyperlist}{#1}%
 }%

```

```

 {%
 \eappto\@gls@nohyperlist{,#1}%
 }%
 }
 \newcommand*\@ignored@glossaries{}
 \newcommand*\ifignoredglossary}[3]{%
 \edef\@gls@igtype{#1}%
 \expandafter\DTLifinlist\expandafter
 {\@gls@igtype}{\@ignored@glossaries}{#2}{#3}%
 }
 \define@key{glossentry}{name}{%
 \def\@glo@name{#1}%
 }
 \define@key{glossentry}{description}{%
 \def\@glo@desc{#1}%
 }
 \define@key{glossentry}{descriptionplural}{%
 \def\@glo@descplural{#1}%
 }
 \define@key{glossentry}{sort}{%
 \def\@glo@sort{#1}}
 \define@key{glossentry}{text}{%
 \def\@glo@text{#1}%
 }
 \define@key{glossentry}{plural}{%
 \def\@glo@plural{#1}%
 }
 \define@key{glossentry}{first}{%
 \def\@glo@first{#1}%
 }
 \define@key{glossentry}{firstplural}{%
 \def\@glo@firstplural{#1}%
 }
 \newcommand*\@gls@default@value{\relax}
 \define@key{glossentry}{symbol}{%
 \def\@glo@symbol{#1}%
 }
 \define@key{glossentry}{symbolplural}{%
 \def\@glo@symbolplural{#1}%
 }
 \define@key{glossentry}{type}{%
 \def\@glo@type{#1}}
 \define@key{glossentry}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }
 }
 }

```

```

 }%
 }%
 {%
 \def\@glo@counter{#1}%
 }%
}
\define@key{glossentry}{see}{%
 \gls@set@xr@key{see}{\@glo@see}{#1}%
}
\newcommand*\@gls@set@xr@key[3]{%
 \renewcommand*\@gls@xr@key{#1}%
 \gls@checkseeallowed
 \def#2{#3}%
 \@glo@seeautonumberlist
}
\newcommand*\@gls@xr@key{see}
\newcommand*\@gls@checkseeallowed{%
 \@gls@see@noindex
}
\newcommand*\@gls@checkseeallowed@preambleonly{%
 \GlossariesWarning{glossaries}%
 {'\@gls@xr@key' key doesn't have any effect when used in the document
 environment. Move the definition to the preamble
 after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@key{glossentry}{parent}{%
 \def\@glo@parent{#1}}
\define@choicekey{glossentry}{nonumberlist}%
 [\@gls@nonumberlist@val\@gls@nonumberlist@nr]{true,false}[true]%
{%
 \ifcase\@gls@nonumberlist@nr\relax
 \def\@glo@prefix{\@gls@nonextpages}%
 \@gls@savenonumberlist{true}%
 \else
 \def\@glo@prefix{\@gls@nextpages}%
 \@gls@savenonumberlist{false}%
 \fi
}
\newcommand*\@gls@savenonumberlist[1]{}
\newcommand*\@gls@initnonumberlist{}%
\newcommand*\@gls@storenonumberlist[1]{}
\newcommand*\@gls@enablesavenonumberlist{%
 \renewcommand*\@gls@initnonumberlist{}%
 \undef\@glo@nonumberlist
}%
\renewcommand*\@gls@savenonumberlist[1]{%
 \def\@glo@nonumberlist{##1}%
}%
\renewcommand*\@gls@storenonumberlist[1]{%

```

```

\ifdef\@glo@nonumberlist
{%
 \cslet{glo\@glsdetoklabel{##1}@nonumberlist}{\@glo@nonumberlist}%
}%
{}%
}%
\appto\@gls@keymap{,{nonumberlist}{nonumberlist}}%
}
\define@key{glossentry}{user1}{%
 \def\@glo@useri{#1}%
}
\define@key{glossentry}{user2}{%
 \def\@glo@userii{#1}%
}
\define@key{glossentry}{user3}{%
 \def\@glo@useriii{#1}%
}
\define@key{glossentry}{user4}{%
 \def\@glo@useriv{#1}%
}
\define@key{glossentry}{user5}{%
 \def\@glo@userv{#1}%
}
\define@key{glossentry}{user6}{%
 \def\@glo@uservi{#1}%
}
\define@key{glossentry}{short}{%
 \def\@glo@short{#1}%
}
\define@key{glossentry}{shortplural}{%
 \def\@glo@shortpl{#1}%
}
\define@key{glossentry}{long}{%
 \def\@glo@long{#1}%
}
\define@key{glossentry}{longplural}{%
 \def\@glo@longpl{#1}%
}
\newcommand*\@glsnoname}{%
 \PackageError{glossaries}{name key required in
 \string\newglossaryentry\space for entry '\@glo@label'}{You
 haven't specified the entry name}}
\newcommand*\@glsnodesc{%
 \PackageError{glossaries}
 {%
 description key required in \string\newglossaryentry\space
 for entry '\@glo@label'%
 }%
 {%
 You haven't specified the entry description%
 }%
}

```



```

}%
}%
\newcommand*{\@glsdefaultplural}{}
\newcommand*{\@gls@missingnumberlist}[1]{%
??%
\ifglssavenumberlist
\GlossariesWarning{Missing number list for entry '#1'.
Maybe makeglossaries + rerun required}%
\else
\PackageError{glossaries}%
{Package option 'savenumberlist=true' required}%
{%
You must use the 'savenumberlist' package option
to reference location lists.%
}%
\fi
}
\newcommand*{\@glsdefaultsort}{\@glo@name}
\newcount\gls@level
\newcommand{\@gls@noexpand@field}[3]{%
\expandafter\global\expandafter
\let\csname glo@#1@#2\endcsname#3%
}
\newcommand{\@gls@noexpand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%
\csuse{gls@assign@#3@field}{#2}{\@gls@value}%
}%
{%
\csuse{gls@assign@#3@field}{#2}{#4}%
}%
}%
}%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%
\@gls@noexpand@field{#2}{#3}{\@gls@value}%
}%
{%
\@gls@noexpand@field{#2}{#3}{#4}%
}%
}%
}
\newcommand{\@gls@expand@field}[3]{%
\expandafter
\protected@xdef\csname glo@#1@#2\endcsname{#3}%
}

```

```

\newcommand{\@gls@expand@fields}[4]{%
 \ifcsdef{gls@assign@#3@field}
 {%
 \ifdequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
 }%
 {%
 \expandafter\@gls@startswithexpandonce#4\relax\relax\gls@endcheck
 {%
 \@gls@expand@field{#2}{#3}{#4}%
 }%
 {%
 \csuse{gls@assign@#3@field}{#2}{#4}%
 }%
 }%
 }%
}
\ifdequal{#4}{\@gls@default@value}%
{%
 \@gls@expand@field{#2}{#3}{#1}%
}%
{%
 \@gls@expand@field{#2}{#3}{#4}%
}%
}%
}
\def\@gls@expandonce{\expandonce}
\def\@gls@startswithexpandonce#1#2\gls@endcheck#3#4{%
 \def\@gls@tmp{#1}%
 \ifdequal{\@gls@expandonce}{\@gls@tmp}{#3}{#4}%
}
\let\gls@assign@field\@gls@expand@fields
\newcommand*\{gls@expand@fields}{%
 \let\gls@assign@field\@gls@expand@fields
}
\newcommand*\{gls@noexpand@fields}{%
 \let\gls@assign@field\@gls@noexpand@fields
}
\newrobustcmd{\newglossaryentry}[2]{%
 \glsdoifnoexists{#1}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\newcommand*\{gls@defdocnewglossaryentry}{%
 \let\gls@checkseeallowed\gls@checkseeallowed@preambleonly
 \let\newglossaryentry\new@glossaryentry
}

```

```

\newrobustcmd{\provideglossaryentry}[2]{%
 \ifglentryexists{#1}%
 {}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\@onlypreamble{\provideglossaryentry}
\newrobustcmd{\new@glossaryentry}[2]{%
 \ifundef\@gls@deffile
 {%
 \global\newwrite\@gls@deffile
 \immediate\openout\@gls@deffile=\jobname.glsdefs
 }%
 {}%
 \ifglentryexists{#1}{}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
 \@gls@writedef{#1}%
}
\AtBeginDocument{\gls@begindocdefs}
\AtEndDocument{\ifdef\@gls@deffile{\closeout\@gls@deffile}{}}
\newcommand*\@gls@begindocdefs{%
 \@gls@enablesavenonumberlist
 \edef\@gls@restoreat{\noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
 \makeatletter
 \InputIfFileExists{\jobname.glsdefs}{%}{%
 \@gls@restoreat
 \undef\@gls@restoreat
 \gls@defdocnewglossaryentry
}
\newcommand*\@gls@writedef}[1]{%
 \immediate\write\@gls@deffile
 {%
 \string\ifglentryexists{#1}{}\glspercentchar^^J%
 \expandafter\@gobble\string\{\glspercentchar^^J%
 \string\gls@defglossaryentry{\glsdetoklabel{#1}}\glspercentchar^^J%
 \expandafter\@gobble\string\{\glspercentchar%
 }%
 \@for\@gls@map:=\@gls@keymap\do
 {%
 \letcs\glo@value{glo@\glsdetoklabel{#1}}\expandafter\@secondoftwo\@gls@map}%
 \ifdef\glo@value
 {%
 \@onelevel@sanitize\glo@value
 \immediate\write\@gls@deffile
 {%
 \expandafter\@firstoftwo\@gls@map
 =\expandafter\@gobble\string\{\glo@value\expandafter\@gobble\string\},%
 }%
 }%
 }%
}

```

```

 \glspercentchar
 }%
 }%
 {}%
}%
\gls.writedefhook
\immediate\write\@gls@deffile
{%
 \glspercentchar^^J%
 \expandafter\@gobble\string\}\glspercentchar^^J%
 \expandafter\@gobble\string\}\glspercentchar%
}%
}
\newcommand*\@gls@keymap{%
 {name}{name},%
 {sort}{sortvalue},% unescaped sort value
 {type}{type},%
 {first}{first},%
 {firstplural}{firstpl},%
 {text}{text},%
 {plural}{plural},%
 {description}{desc},%
 {descriptionplural}{descplural},%
 {symbol}{symbol},%
 {symbolplural}{symbolplural},%
 {user1}{useri},%
 {user2}{userii},%
 {user3}{useriii},%
 {user4}{useriv},%
 {user5}{userv},%
 {user6}{uservi},%
 {long}{long},%
 {longplural}{longpl},%
 {short}{short},%
 {shortplural}{shortpl},%
 {counter}{counter},%
 {parent}{parent}%
}
\newcommand*\@gls@fetchfield}[2]{%
 \edef\@gls@thisval{#2}%
 \for\@gls@map:=\@gls@keymap\do{%
 \edef\@this@key{\expandafter\@firstoftwo\@gls@map}%
 \ifdefequal{\@this@key}{\@gls@thisval}%
 {%
 \edef#1{\expandafter\@secondoftwo\@gls@map}%
 \@endfortrue
 }%
 }%
}%
}

```

```

\newcommand*\glsaddstoragekey}{\ifstar\sglsaddstoragekey\glsaddstoragekey}
\newcommand*\@sglsaddstoragekey}[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
 {}%
 \@glsaddstoragekey{#1}%
}
\newcommand*\@glsaddstoragekey}[3]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
 \appto\@gls@keymap{, {#1}{#1}}%
 \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
 \appto\@newglossaryentryposthook{%
 \letcs{@glo@tmp}{@glo@#1}%
 \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
 }%
 \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
 }%
 {}%
 \PackageError{glossaries}{Key ‘#1’ already exists}{}%
 }%
}
\newcommand*\glsaddkey}{\ifstar\sglsaddkey\glsaddkey}
\newcommand*\@sglsaddkey}[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
 {}%
 \@glsaddkey{#1}%
}
\newcommand*\@glsaddkey}[7]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
 \appto\@gls@keymap{, {#1}{#1}}%
 \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
 \appto\@newglossaryentryposthook{%
 \letcs{@glo@tmp}{@glo@#1}%
 \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
 }%
 }%
}

```

```

\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
\newcommand*{#4}[1]{\@Gls@entry@field{##1}{#1}}%
\ifcsdef{@gls@user@#1@}%
{
 \PackageError{glossaries}%
 {Can't define '\string#5' as helper command
 '\expandafter\string\csname @gls@user@#1@\endcsname' already exists}%
 {}%
}%
{
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @gls@user@#1@\endcsname}[2][]{%
 \new@ifnextchar[%
 {\csuse{@gls@user@#1@}{##1}{##2}}%
 {\csuse{@gls@user@#1@}{##1}{##2}[[]]}%
 \csdef{@gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#3{##2}##3}%
 }%
 \newrobustcmd*{#5}{%
 \expandafter\@gls@hyp@opt\csname @gls@user@#1@\endcsname}%
 }%
 \ifcsdef{@Gls@user@#1@}%
 {
 \PackageError{glossaries}%
 {Can't define '\string#6' as helper command
 '\expandafter\string\csname @Gls@user@#1@\endcsname' already exists}%
 {}%
 }%
 {
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @Gls@user@#1@\endcsname}[2][]{%
 \new@ifnextchar[%
 {\csuse{@Gls@user@#1@}{##1}{##2}}%
 {\csuse{@Gls@user@#1@}{##1}{##2}[[]]}%
 \csdef{@Gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#4{##2}##3}%
 }%
 \newrobustcmd*{#6}{%
 \expandafter\@gls@hyp@opt\csname @Gls@user@#1@\endcsname}%
 }%
 \ifcsdef{@GLS@user@#1@}%
 {
 \PackageError{glossaries}%
 {Can't define '\string#7' as helper command
 '\expandafter\string\csname @GLS@user@#1@\endcsname' already exists}%
 {}%
 }%
 {
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @GLS@user@#1@\endcsname}[2][]{%

```

```

 \new@ifnextchar [%
 {\csuse{@GLS@user@#1@}{##1}{##2}}%
 {\csuse{@GLS@user@#1@}{##1}{##2}[]}%
 \csdef{@GLS@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{\mfirstucMakeUppercase{#3{##2}##3}}%
 }%
 \newrobustcmd*{#7}{%
 \expandafter\@gls@hyp@opt\csname @GLS@user@#1\endcsname}%
 }%
 }%
}%
{
 \PackageError{glossaries}{Key ‘#1’ already exists}{%
}
}
\newcommand{\glsfieldxddef}[3]{%
\glsdoifexists{#1}%
{
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {
 \protected@csxdef{glo@\@glo@label @#2}{#3}%
 }%
 {
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{%
 }%
}
}
\newcommand{\glsfielddedef}[3]{%
\glsdoifexists{#1}%
{
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {
 \protected@csedef{glo@\@glo@label @#2}{#3}%
 }%
 {
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{%
 }%
}
}
}
\newcommand{\glsfielddgdef}[3]{%
\glsdoifexists{#1}%
{
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {
 \expandafter\gdef\csname glo@\@glo@label @#2\endcsname{#3}%
 }%
 {
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{%
}
}
}

```

```

 }%
 }%
}
\newcommand{\glsfielddef}[3]{%
\glsdoifexists{#1}%
{%
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\def\csname glo@\@glo@label @#2\endcsname{#3}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand{\glsfieldfetch}[3]{%
\glsdoifexists{#1}%
{%
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \letcs#3{glo@\@glo@label @#2}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand{\ifglsfieldeq}[5]{%
\glsdoifexists{#1}%
{%
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \ifcsstring{glo@\@glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand{\ifglsfielddefeq}[5]{%
\glsdoifexists{#1}%
{%
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\ifdefstrequal
 \csname glo@\@glo@label @#2\endcsname{#3}{#4}{#5}%
 }%
}

```



```

}%
{%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
}%
}%
}
\newcommand{\ifglsfieldcseq}[5]{%
\glsdoifexists{#1}%
{%
 \edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \ifcsstrequal{glo@\glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand*{\glswritedefhook}{}
\newcommand*{\gls@assign@desc}[1]{%
 \gls@assign@field{}{#1}{desc}{\@glo@desc}%
 \gls@assign@field{\@glo@desc}{#1}{descplural}{\@glo@descplural}%
}
\newcommand{\longnewglossaryentry}[3]{%
 \glsdoifnoexists{#1}%
 {%
 \bgroup
 \let\@org@newglossaryentryprehook\@newglossaryentryprehook
 \long\def\@newglossaryentryprehook{%
 \long\def\@glo@desc{#3\leavevmode\unskip\nopostdesc}%
 \@org@newglossaryentryprehook
 }%
 \renewcommand*{\gls@assign@desc}[1]{%
 \global\cslet{glo@\glsdetoklabel{#1}@desc}{\@glo@desc}%
 \global\cslet{glo@\glsdetoklabel{#1}@descplural}{\@glo@desc}%
 }
 \gls@defglossaryentry{#1}{#2}%
 \egroup
 }
}
\@onlypreamble{\longnewglossaryentry}
\newcommand{\longprovideglossaryentry}[3]{%
 \ifglsentryexists{#1}{}%
 {\longnewglossaryentry{#1}{#2}{#3}}%
}
\@onlypreamble{\longprovideglossaryentry}
\newcommand{\gls@defglossaryentry}[2]{%
 \let\GlsSetQuote\gls@nosetquote
 \edef\glo@label{\glsdetoklabel{#1}}%

```

```

\let\glslabel\@glo@label
\let\@glo@name\@gls@name
\let\@glo@desc\@gls@desc
\let\@glo@descplural\@gls@descplural
\let\@glo@type\@gls@type
\let\@glo@symbol\@gls@symbol
\let\@glo@symbolplural\@gls@symbolplural
\let\@glo@text\@gls@text
\let\@glo@plural\@gls@plural
\let\@glo@first\@gls@first
\let\@glo@firstplural\@gls@firstplural
\let\@glo@sort\@gls@sort
\let\@glo@counter\@gls@counter
\def\@glo@see{}%
\def\@glo@parent{}%
\def\@glo@prefix{}%
\@gls@initnonnumberlist
\def\@glo@useri{}%
\def\@glo@userii{}%
\def\@glo@useriii{}%
\def\@glo@useriv{}%
\def\@glo@userv{}%
\def\@glo@uservi{}%
\def\@glo@short{}%
\def\@glo@shortpl{}%
\def\@glo@long{}%
\def\@glo@longpl{}%
\@newglossaryentryprehook
\setkeys{glossentry}{#2}%
\ifundef\glsdefaulttype
{%
 \PackageError{glossaries}%
 {No default glossary type (have you used ‘nomain’ by mistake?)}%
 {If you use package option ‘nomain’ you must define
 a new glossary before you can define entries}%
}%
{}%
\gls@assign@field{\glsdefaulttype}{\@glo@label}{type}{\@glo@type}%
\edef\@glo@type{\glsentrytype{\@glo@label}}%
\ifcsundef{glo@list@\@glo@type}%
{%
 \PackageError{glossaries}%
 {Glossary type ‘\@glo@type’ has not been defined}%
 {You need to define a new glossary type, before making entries
 in it}%
}%
{}%
\ifignoredglossary\@glo@type
{%
 \ifx\@glo@desc\@gls@desc

```

```

 \let\@glo@desc\@empty
 \fi
}%
{%
}%
\protected@edef\@glo@list@\csname glo@list@\@glo@type\endcsname}%
\expandafter\xdef\csname glo@list@\@glo@type\endcsname{%
 \@glo@list@\@glo@label},}%
}%
\gls@level=0\relax
\ifx\@glo@parent\@empty
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
\else
 \ifdequal\@glo@label\@glo@parent%
 {%
 \PackageError{glossaries}{Entry ‘\@glo@label’ can’t be its own parent}{}%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
 }%
 {%
 \ifglsentryexists{\@glo@parent}%
 {%
 \expandafter\xdef\csname glo@\@glo@label @parent\endcsname{%
 \@glo@parent}%
 \gls@level=\csname glo@\@glo@parent @level\endcsname\relax
 \advance\gls@level by 1\relax
 \ifx\@glo@name\@glsnoname
 \expandafter\let\expandafter\@glo@name
 \csname glo@\@glo@parent @name\endcsname
 \ifx\@glo@plural\@gls@default@value
 \expandafter\let\expandafter\@glo@plural
 \csname glo@\@glo@parent @plural\endcsname
 \fi
 \fi
 }%
 }%
 }%
 \PackageError{glossaries}%
 {%
 Invalid parent ‘\@glo@parent’
 for entry ‘\@glo@label’ - parent doesn’t exist%
 }%
 {%
 Parent entries must be defined before their children%
 }%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
 }%
 }%
\fi
\expandafter\xdef\csname glo@\@glo@label @level\endcsname{\number\gls@level}%

```

```

\gls@assign@field{\@glo@name}{\@glo@label}{sortvalue}{\@glo@sort}%
\letcs@glo@sort{glo@\@glo@label @sortvalue}%
\gls@assign@field{\@glo@name}{\@glo@label}{text}{\@glo@text}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @text\endcsname\glspluralsuffix}%
 {\@glo@label}{plural}{\@glo@plural}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @text\endcsname}%
 {\@glo@label}{first}{\@glo@first}%
\ifx@glo@first@gls@default@value
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @plural\endcsname}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\else
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @first\endcsname\glspluralsuffix}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\fi
\ifcsundef{glo@type@\@glo@type @counter}%
{%
 \def@glo@defaultcounter{\glscounter}%
}%
{%
 \letcs@glo@defaultcounter{glo@type@\@glo@type @counter}%
}%
\gls@assign@field{\@glo@defaultcounter}{\@glo@label}{counter}{\@glo@counter}%
\gls@assign@field{}{\@glo@label}{useri}{\@glo@useri}%
\gls@assign@field{}{\@glo@label}{userii}{\@glo@userii}%
\gls@assign@field{}{\@glo@label}{useriii}{\@glo@useriii}%
\gls@assign@field{}{\@glo@label}{useriv}{\@glo@useriv}%
\gls@assign@field{}{\@glo@label}{userv}{\@glo@userv}%
\gls@assign@field{}{\@glo@label}{uservi}{\@glo@uservi}%
\gls@assign@field{}{\@glo@label}{short}{\@glo@short}%
\gls@assign@field{}{\@glo@label}{shortpl}{\@glo@shortpl}%
\gls@assign@field{}{\@glo@label}{long}{\@glo@long}%
\gls@assign@field{}{\@glo@label}{longpl}{\@glo@longpl}%
\ifx@glo@name@glsnoname
 \glsnoname
 \let@glo@name@gls@default@value
\fi
\gls@assign@field{}{\@glo@label}{name}{\@glo@name}%
\ifcsundef{glo@\@glo@label @numberlist}%
{%
 \csxdef{glo@\@glo@label @numberlist}{%
 \noexpand@gls@missingnumberlist{\@glo@label}}%
}%
{%
 \gls@storenonumberlist{\@glo@label}%
 \def@glo@desc{\@glo@first}%
 \ifx@glo@desc@glo@desc

```

```

\let\@glo@desc\@glo@first
\fi
\ifx\@glo@desc\@glsnodesc
\@glsnodesc
\let\@glo@desc\@gls@default@value
\fi
\gls@assign@desc{\@glo@label}%
\@gls@defsort{\@glo@type}{\@glo@label}%
\def\@glo@@symbol{\@glo@text}%
\ifx\@glo@symbol\@glo@@symbol
\let\@glo@symbol\@glo@text
\fi
\gls@assign@field{\relax}{\@glo@label}{symbol}{\@glo@symbol}%
\expandafter
\gls@assign@field\expandafter
{\csname glo@\@glo@label @symbol\endcsname}
{\@glo@label}{symbolplural}{\@glo@symbolplural}%
\expandafter\xdef\csname glo@\@glo@label @flagfalse\endcsname{%
\noexpand\global
\noexpand\let\expandafter\noexpand
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iffalse
}%
\expandafter\xdef\csname glo@\@glo@label @flagtrue\endcsname{%
\noexpand\global
\noexpand\let\expandafter\noexpand
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iftrue
}%
\csname glo@\@glo@label @flagfalse\endcsname
\@glo@autosee
\ifignoredglossary\@glo@type
{%
\csdef{glo@\@glo@label @index}{}%
}
{%
\do@glo@storeentry{\@glo@label}%
}%
\@newglossaryentry@defcounters
\@newglossaryentry@posthook
}
\newcommand*{\@glo@autosee}{%
\ifdefvoid\@glo@see{%
{%
\protected@edef\@do@glssee{%
\noexpand\@gls@fixbraces\noexpand\@glo@list\@glo@see\noexpand\@nil
\noexpand\expandafter\noexpand\@glssee\noexpand\@glo@list{\@glo@label}}%
\do@glssee
}%
\@glo@autoseehook
}%
\newcommand*{\@glo@autoseehook}{%

```

```

\newcommand*{\@newglossaryentryprehook}{}
\newcommand*{\@newglossaryentryposthook}{}
\newcommand*{\@newglossaryentry@defcounters}{}
\newcommand*{\glsmoveentry}[2]{%
 \edef\@glo@thislabel{\glsdetoklabel{#1}}%
 \edef\@glo@type{\csname glo@\@glo@thislabel @type\endcsname}%
 \def\@glo@list{,%}
 \for@gl@entries[\@glo@type]{\@glo@label}%
 {%
 \if@defequal\@glo@thislabel\@glo@label
 {}{\@eappto\@glo@list{\@glo@label,}}%
 }%
 \cslet\@glo@list[\@glo@type]{\@glo@list}%
 \csdef{glo@\@glo@thislabel @type}{#2}%
}
\if@gl@xindy
 \newcommand*{\@glossaryentryfield}{\string\@glossentry}
\else
 \newcommand*{\@glossaryentryfield}{\string\@glossentry}
\fi
\if@gl@xindy
 \newcommand*{\@glossarysubentryfield}{%
 \string\@subglossentry}
\else
 \newcommand*{\@glossarysubentryfield}{%
 \string\@subglossentry}
\fi
\newcommand{\@glo@storeentry}[1]{%
 \edef\@glo@esclabel{#1}%
 \@gls@checkmkidxchars\@glo@esclabel
 \protected@edef\@glo@sort{\csname glo@#1@sort\endcsname}%
 \@gls@checkmkidxchars\@glo@sort
 \@gls@checkmkidxchars\@glo@prefix
 \edef\@glo@parent{\csname glo@#1@parent\endcsname}%
 \if@gl@xindy
 \ifx\@glo@parent\@empty
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 (\string"\@glo@sort\string" %
 \string"\@glo@prefix\@glossaryentryfield{\@glo@esclabel}\string") %
 }%
 \else
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \csname glo@\@glo@parent @index\endcsname
 (\string"\@glo@sort\string" %
 \string"\@glo@prefix\@glossarysubentryfield
 {\csname glo@#1@level\endcsname}{\@glo@esclabel}\string") %
 }%
 \fi
 \else
 \ifx\@glo@parent\@empty

```

```

 \onelevel@sanitize\@glo@prefix
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \@glo@sort\@gls@actualchar\@glo@prefix
 \@glossaryentryfield{\@glo@esclabel}%
 }%
 \else
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \csname glo@\@glo@parent @index\endcsname\@gls@levelchar
 \@glo@sort\@gls@actualchar\@glo@prefix
 \@glossarysubentryfield
 {\csname glo@#1@level\endcsname}{\@glo@esclabel}%
 }%
 \fi
 \fi
}
\AtBeginDocument{%
 \ifpackageloaded{amsmath}%
 {\let\gls@ifnotmeasuring\@gls@ifnotmeasuring}%
 {}%
}
\newcommand*\@gls@ifnotmeasuring[1]{%
 \ifmeasuring@
 \else
 #1%
 \fi
}
\newcommand*\gls@ifnotmeasuring[1]{#1}
\def\@gls@patchtabularx#1\hbox#2#3!!{%
 \def\TX@trial##1{#1\hbox{\let\glsunset\@gobble#2}#3}%
}
\newcommand*\glspatchtabularx{%
 \ifdef\TX@trial
 {%
 \expandafter\@gls@patchtabularx\TX@trial{##1}!!%
 \let\glspatchtabularx\relax
 }%
 {}%
}
\newcommand*\glsreset[1]{%
 \gls@ifnotmeasuring
 {%
 \glsdoifexists{#1}%
 {%
 \@glsreset{#1}%
 }%
 }%
}
\newcommand*\glslocalreset[1]{%
 \gls@ifnotmeasuring
 {%

```

```

\glsdoifexists{#1}%
{%
 \@glslocalreset{#1}%
}%
}%
}
\newcommand*\glsunset}[1]{%
\gls@ifnotmeasuring
{%
 \glsdoifexists{#1}%
 {%
 \@glsunset{#1}%
 }%
}%
}
\newcommand*\glslocalunset}[1]{%
\gls@ifnotmeasuring
{%
 \glsdoifexists{#1}%
 {%
 \@glslocalunset{#1}%
 }%
}%
}
\newcommand*\@glslocalunset{\@glslocalunset}
\newcommand*\@glslocalunset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iftrue
}
\newcommand*\@glsunset{\@glsunset}
\newcommand*\@glsunset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagtrue\endcsname
}
\newcommand*\@glslocalreset{\@glslocalreset}
\newcommand*\@glslocalreset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iffalse
}
\newcommand*\@glsreset{\@glsreset}
\newcommand*\@glsreset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagfalse\endcsname
}
\newcommand*\glsresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsreset{\@glsentry}%
 }%
}
\newcommand*\glslocalresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalreset{\@glsentry}%
 }%
}

```



```

}%
}
\newcommand*\glsunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsunset{\@glsentry}%
 }%
}
\newcommand*\glslocalunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalunset{\@glsentry}%
 }%
}
\newcommand*\@@newglossaryentry@defcounters{%
 \csdef{glo@\@glo@label @currcount}{0}%
 \csdef{glo@\@glo@label @prevcount}{0}%
}
\newcommand*\glsenableentrycount{%
 \let\@newglossaryentry@defcounters\@@newglossaryentry@defcounters
 \renewcommand*\gls@defdocnewglossaryentry{%
 \renewcommand*newglossaryentry[2]{%
 \PackageError{glossaries}{\string\newglossaryentry\space
 may only be used in the preamble when entry counting has
 been activated}{If you use \string\glsenableentrycount\space
 you must place all entry definitions in the preamble not in
 the document environment}%
 }%
 }%
}
\newcommand*\glsentrycurrcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@currcount}%
 {0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@prevcount}%
 {0}{\@gls@entry@field{##1}{prevcount}}%
}%
\renewcommand*\@glsunset}[1]{%
 \@glsunset{##1}%
 \@gls@increment@currcount{##1}%
}%
\renewcommand*\@glslocalunset}[1]{%
 \@glslocalunset{##1}%
 \@gls@local@increment@currcount{##1}%
}%
\renewcommand*\@glsreset}[1]{%
 \@glsreset{##1}%
 \csgdef{glo@\glsdetoklabel{##1}@currcount}{0}%
}%
\renewcommand*\@glslocalreset}[1]{%

```

```

 \@glslocalreset{##1}%
 \csdef{glo@glsdetoklabel{##1}@currcount}{0}%
 }%
\def\@cgl@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cglformat{##2}{##3}%
 \glsunset{##2}%
 \else
 \@gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cgl@spl@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cgl@splformat{##2}{##3}%
 \glsunset{##2}%
 \else
 \@gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cGls@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cGlsformat{##2}{##3}%
 \glsunset{##2}%
 \else
 \@Gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cGls@spl@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cGls@splformat{##2}{##3}%
 \glsunset{##2}%
 \else
 \@Gls@{##1}{##2}[##3]%
 \fi
}%
\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*{\@gls@entry@count}[2]{%
 \csgdef{glo@glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsenableentrycount\relax
}
\@onlypreamble\glsenableentrycount
\newcommand*{\@gls@increment@currcount}[1]{%
 \csxdef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsentrycurrcount{##1}+1}%
}
\newcommand*{\@gls@local@increment@currcount}[1]{%
 \csedef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsentrycurrcount{##1}+1}%
}
}

```

```

\newcommand*{\@gls@write@entrycounts}{%
 \immediate\write\@auxout
 {\string\providecommand*\string\@gls@entry@count}[2]{}}%
\forallglsentries{\@glsentry}{%
 \ifglsused{\@glsentry}%
 {\immediate\write\@auxout
 {\string\@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}}%
 }%
}%
}
\newcommand*{\@gls@entry@count}[2]{%
\newrobustcmd*{\cglS}{\@gls@hyp@opt\@cglS}
\newcommand*{\@cglS}[2][{}]{%
 \new@ifnextchar[{\@cglS@{#1}{#2}}{\@cglS@{#1}{#2}}[{}]}%
}
\def\@cglS@#1#2[#3]{%
 \GlossariesWarning{\string\cglS\space is defaulting to
 \string\gls\space since you haven't enabled entry counting}%
 \@cglS@{#1}{#2}[#3]}%
}
\newcommand*{\cglSformat}[2]{%
 \ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cGlS}{\@gls@hyp@opt\@cGlS}
\newcommand*{\@cGlS}[2][{}]{%
 \new@ifnextchar[{\@cGlS@{#1}{#2}}{\@cGlS@{#1}{#2}}[{}]}%
}
\def\@cGlS@#1#2[#3]{%
 \GlossariesWarning{\string\cGlS\space is defaulting to
 \string\Gls\space since you haven't enabled entry counting}%
 \@cGlS@{#1}{#2}[#3]}%
}
\newcommand*{\cGlSformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cglSpl}{\@gls@hyp@opt\@cglSpl}
\newcommand*{\@cglSpl}[2][{}]{%
 \new@ifnextchar[{\@cglSpl@{#1}{#2}}{\@cglSpl@{#1}{#2}}[{}]}%
}
\def\@cglSpl@#1#2[#3]{%
 \GlossariesWarning{\string\cglSpl\space is defaulting to
 \string\glspl\space since you haven't enabled entry counting}%
 \@cglSpl@{#1}{#2}[#3]}%
}
\newcommand*{\cglSplformat}[2]{%
 \ifglshaslong{#1}{\glsentrylongpl{#1}}{\glsentryfirstplural{#1}}#2%
}
\newrobustcmd*{\cGlSpl}{\@gls@hyp@opt\@cGlSpl}
\newcommand*{\@cGlSpl}[2][{}]{%
 \new@ifnextchar[{\@cGlSpl@{#1}{#2}}{\@cGlSpl@{#1}{#2}}[{}]}%
}

```

```

}
\def\cGlspl@#1#2[#3]{%
 \GlossariesWarning{\string\cGlspl\space is defaulting to
 \string\Glspl\space since you haven't enabled entry counting}%
 \@Glspl@{#1}{#2}[#3]%
}
\newcommand*\cGlsplformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*\loadglsentries}[2][\@gls@default]{%
 \let\@gls@default\glsdefaulttype
 \def\glsdefaulttype{#1}\input{#2}%
 \let\glsdefaulttype\@gls@default
}
\@onlypreamble{\loadglsentries}
\newcommand*\glsformat}[1]{#1}
\newcommand*\glsentryfmt{%
 \@@gls@default@entryfmt\glsdisplayfirst\glsdisplay
}
\newcommand*\@@gls@default@entryfmt}[2]{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 #2{\glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
 {%
 #1{\glsentryfirstplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
 }%
 }%
 }%
 \ifglsused\glslabel
 {%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #2{\glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 }%
}

```

```

#2{\Glsentryplural{\glslabel}}%
{\glsentrydescplural{\glslabel}}%
{\glsentrysymbolplural{\glslabel}}{\glsinsert}%
}%
}%
{%
\ifbool{glscompatible-3.07}%
{%
\protected@edef\@glo@etext{%
#1{\Glsentryfirstplural{\glslabel}}%
{\glsentrydescplural{\glslabel}}%
{\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
\xmakefirstuc\@glo@etext
}%
{%
#1{\Glsentryfirstplural{\glslabel}}%
{\glsentrydescplural{\glslabel}}%
{\glsentrysymbolplural{\glslabel}}{\glsinsert}%
}%
}%
}%
\ifglsused\glslabel
{%
\mfirstucMakeUppercase{#2{\glsentryplural{\glslabel}}%
{\glsentrydescplural{\glslabel}}%
{\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
}%
{%
\mfirstucMakeUppercase{#1{\glsentryfirstplural{\glslabel}}%
{\glsentrydescplural{\glslabel}}%
{\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
}%
}%
}%
\glscapscase
{%
\ifglsused\glslabel
{%
#2{\glsentrytext{\glslabel}}%
{\glsentrydesc{\glslabel}}%
{\glsentrysymbol{\glslabel}}{\glsinsert}%
}%
{%
#1{\glsentryfirst{\glslabel}}%
{\glsentrydesc{\glslabel}}%
{\glsentrysymbol{\glslabel}}{\glsinsert}%
}%
}%

```

```

{%
 \ifglsused\glslabel
 {%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #2{\glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #2{\Glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
 }%
 {%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #1{\glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #1{\Glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
 }%
}
{%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase{#2{\glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 }%
 {%
 \mfirstucMakeUppercase{#1{\glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 }%
}
{%
 \ifglsused{\glslabel}%

```

```

 {%
 #2{\glscustomtext}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{}}%
 }%
 {%
 #1{\glscustomtext}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{}}%
 }%
 }%
}
\newcommand*{\glsgenentryfmt}{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glsentryplural{\glslabel}\glsinsert
 }%
 {%
 \glsentryfirstplural{\glslabel}\glsinsert
 }%
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \Glsentryplural{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirstplural{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase
 {\glsentryplural{\glslabel}\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\glsentryfirstplural{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glscapscase
 }%
}

```

```

 {%
 \ifglused\glslabel
 {%
 \glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglused\glslabel
 {%
 \Glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglused\glslabel
 {%
 \mfirstucMakeUppercase{\glsentrytext{\glslabel}\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase{\glsentryfirst{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glscustomtext\glsinsert
 }%
}
\newcommand*{\glsnacfmt}{%
 \ifdefempty\glscustomtext
 {%
 \ifglused\glslabel
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \acronymfont{\glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \acronymfont{\Glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{\glsentryshortpl{\glslabel}}\glsinsert}%
 }%
 }%
 }%
 }%
}

```



```

 }%
 }%
 {%
 \glscapscase
 {%
 \acronymfont{\glsentryshort{\glslabel}}\glsinsert
 }%
 {%
 \acronymfont{\Glsentryshort{\glslabel}}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{\glsentryshort{\glslabel}}\glsinsert}%
 }%
 }%
}
{%
\glsifplural
{%
\glscapscase
{%
\genplacrfullformat{\glslabel}{\glsinsert}%
}%
{%
\Genplacrfullformat{\glslabel}{\glsinsert}%
}%
{%
\mfirstucMakeUppercase
 {\genplacrfullformat{\glslabel}{\glsinsert}}%
}%
}%
}%
{%
\glscapscase
{%
\genacrfullformat{\glslabel}{\glsinsert}%
}%
{%
\Genacrfullformat{\glslabel}{\glsinsert}%
}%
{%
\mfirstucMakeUppercase
 {\genacrfullformat{\glslabel}{\glsinsert}}%
}%
}%
}%
\glscustomtext
}%
}

```

```

\newcommand*\genacrfullformat}[2]{%
 \glsentrylong{#1}#2\space
 (\protect\firstacronymfont{\glsentryshort{#1}})%
}
\newcommand*\Genacrfullformat}[2]{%
 \protected@edef\gls@text{\genacrfullformat{#1}{#2}}%
 \xmakefirstuc\gls@text
}
\newcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{#1}#2\space
 (\protect\firstacronymfont{\glsentryshortpl{#1}})%
}
\newcommand*\Genplacrfullformat}[2]{%
 \protected@edef\gls@text{\genplacrfullformat{#1}{#2}}%
 \xmakefirstuc\gls@text
}
\newcommand*\glsdisplayfirst}[4]{#1#4}
\newcommand*\glsdisplay}[4]{#1#4}
\newcommand*\defglsdisplay}[2][\glsdefaulttype]{%
 \GlossariesWarning{\string\defglsdisplay\space is now obsolete.^^J
 Use \string\defglsentryfmt\space instead}%
 \expandafter\def\csname gls@#1@display\endcsname##1##2##3##4{#2}%
 \edef\@gls@doentrydef{%
 \noexpand\defglsentryfmt[#1]{%
 \noexpand\ifcsdef{gls@#1@displayfirst}%
 {%
 \noexpand\@gls@default@entryfmt
 {\noexpand\csuse{gls@#1@displayfirst}}%
 {\noexpand\csuse{gls@#1@display}}%
 }%
 {%
 \noexpand\@gls@default@entryfmt
 {\noexpand\glsdisplayfirst}%
 {\noexpand\csuse{gls@#1@display}}%
 }%
 }%
 }%
 \@gls@doentrydef
}
\newcommand*\defglsdisplayfirst}[2][\glsdefaulttype]{%
 \GlossariesWarning{\string\defglsdisplayfirst\space is now obsolete.^^J
 Use \string\defglsentryfmt\space instead}%
 \expandafter\def\csname gls@#1@displayfirst\endcsname##1##2##3##4{#2}%
 \edef\@gls@doentrydef{%
 \noexpand\defglsentryfmt[#1]{%
 \noexpand\ifcsdef{gls@#1@display}%
 {%
 \noexpand\@gls@default@entryfmt
 {\noexpand\csuse{gls@#1@displayfirst}}%
 {\noexpand\csuse{gls@#1@display}}%
 }%
 }%
 }%
 \@gls@doentrydef
}

```

```

 }%
 {%
 \noexpand\@gls@default@entryfmt
 {\noexpand\csuse{gls@#1@displayfirst}}%
 {\noexpand\glsdisplay}%
 }%
 }%
 }%
 \@gls@doentrydef
}
\define@key{glslink}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
 }%
 {%
 \def\@gls@counter{#1}%
 }%
}
\define@key{glslink}{format}{%
 \def\@glsnumberformat{#1}}
\define@boolkey{glslink}{hyper}[true]{}
\ifdef{\hyperlink}{\KV@glslink@hypertrue}{\KV@glslink@hyperfalse}
\define@boolkey{glslink}{local}[true]{}
\newcommand*{\glslinkvar}[3]{#1}
\newcommand*{\glsifhyper}[2]{%
 \glslinkvar{#1}{#2}{#1}%
 \GlossariesWarning{\string\glsifhyper\space is deprecated. Did
 you mean \string\glsifhyperon\space or \string\glslinkvar?}%
}
\newcommand*{\@gls@hyp@opt}[1]{%
 \let\glslinkvar\@firstofthree
 \let\@gls@hyp@opt@cs#1\relax
 \@ifstar{\s@gls@hyp@opt}%
 {\@ifnextchar+{\@firstoftwo{\p@gls@hyp@opt}}{#1}}%
}
\newcommand*{\s@gls@hyp@opt}[1][]{%
 \let\glslinkvar\@secondofthree
 \@gls@hyp@opt@cs[hyper=false,#1]}
\newcommand*{\p@gls@hyp@opt}[1][]{%
 \let\glslinkvar\@thirdofthree
 \@gls@hyp@opt@cs[hyper=true,#1]}
\newrobustcmd*{\glslink}{%
 \@gls@hyp@opt\@gls@@link
}

```

```

\newcommand*{\@gls@link}[3][\%
 \glsdoifexistsordo{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \@gls@link[#1]{#2}{#3}%
 }{%
 \glstextformat{#3}%
 }%
 \glspostlinkhook
}
\newcommand*{\glspostlinkhook}{}
\newcommand*{\@gls@link@checkfirsthyper}{%
 \ifglsused{\glslabel}%
 {%
 }%
 {%
 \gls@checkisacronymlist\glstype
 \ifglshyperfirst
 \if@glsisacronymlist
 \ifglsacrfootnote
 \KV@glslink@hyperfalse
 \fi
 \fi
 \else
 \KV@glslink@hyperfalse
 \fi
 }%
 \glslinkcheckfirsthyperhook
}
\newcommand*{\glslinkcheckfirsthyperhook}{}
\newcommand*{\glslinkpostsetkeys}{}
\newcommand{\@glsifhyperon}[2]{\ifKV@glslink@hyper#1\else#2\fi}
\newcommand*{\do@glsdisablehyperinlist}{%
 \expandafter\DTLifinlist\expandafter{\glstype}{\@gls@nohyperlist}%
 {\KV@glslink@hyperfalse}{}%
}
\newcommand*{\@gls@setdefault@glslink@opts}{}
\def\@gls@link[#1]#2#3{%
 \leavevmode
 \edef\glslabel{\glsdetoklabel{#2}}%
 \def\@gls@link@opts{#1}%
 \let\@gls@link@label\glslabel
 \def\@glsnumberformat{glsnumberformat}%
 \edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
 \edef\glstype{\csname glo@\glslabel @type\endcsname}%
 \let\org@ifKV@glslink@hyper\ifKV@glslink@hyper
 \@gls@setdefault@glslink@opts
 \do@glsdisablehyperinlist
 \do@gls@link@checkfirsthyper
 \setkeys{glslink}{#1}%
}

```

```

\glslinkpostsetkeys
\@gls@saveentrycounter
\@gls@setsort{\glslabel}%
\@do@wrglossary{#2}%
\ifKV@glslink@hyper
 \@glslink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
\else
 \glsdonohyperlink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
\fi
\let\ifKV@glslink@hyper\org@ifKV@glslink@hyper
}
\newcommand*{\glolinkprefix}{glo:}
\def\glsentrycounter{\glscounter}%
\newcommand*{\@gls@saveentrycounter}{%
 \def\@gls@Hcounter{}%
 \ifthenelse{\equal{\@gls@counter}{equation}}%
 {
 \ifcsundef{xatlevel@}%
 {%
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 }%
 {%
 \ifx\xatlevel@\@empty
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 \else
 \savecounters@
 \advance\c@equation by 1\relax
 \edef\theglsentrycounter{\csname the\@gls@counter\endcsname}%
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\@gls@Hcounter{\theglsentrycounter}%
 }%
 {%
 \def\@gls@Hcounter{\csname theH\@gls@counter\endcsname}%
 }%
 \protected@edef\theHglsentrycounter{\@gls@Hcounter}%
 \restorecounters@
 \fi
 }%
 }%
 {%
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 }%
 \ifx\@gls@Hcounter\@empty
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\theHglsentrycounter{\theglsentrycounter}%
 }%
 }%

```

```

}%
{%
 \protected@edef\theHglentrycounter{\expandafter\noexpand
 \csname theH\@gls@counter\endcsname}%
}%
\fi
}
\def\@set@glo@numformat#1#2#3#4{%
 \expandafter\@glo@check@mkidxrangear#3\@nil
 \protected@edef#1{%
 \@glo@prefix setentrycounter[#4]{#2}%
 \expandafter\string\csname\@glo@suffix\endcsname
 }%
 \@gls@checkmkidxchars#1%
}
\def\@glo@check@mkidxrangear#1#2\@nil{%
\if#1\relax
 \def\@glo@prefix{()}%
 \if\relax#2\relax
 \def\@glo@suffix{glsnumberformat}%
 \else
 \def\@glo@suffix{#2}%
 \fi
\else
 \if#1\relax
 \def\@glo@prefix{}%
 \if\relax#2\relax
 \def\@glo@suffix{glsnumberformat}%
 \else
 \def\@glo@suffix{#2}%
 \fi
 \else
 \def\@glo@prefix{}\def\@glo@suffix{#1#2}%
 \fi
\fi}
\newcommand*{\@gls@escbsdq}[1]{%
 \def\@gls@checkedmkidx{}%
 \let\gls@xdystring=#1\relax
 \@onelevel@sanitize\gls@xdystring
 \edef\do@gls@xdycheckbackslash{%
 \noexpand\@gls@xdycheckbackslash\gls@xdystring\noexpand\@nil
 \@backslashchar\@backslashchar\noexpand\null}%
 \do@gls@xdycheckbackslash
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@xdycheckquote\gls@xdystring\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
 \@for\@gls@tmp:=\gls@protected@pagefmts\do
 {%
 \edef\@gls@sanitized@tmp{\expandafter\@gobble\string\\expandonce\@gls@tmp}%
 }
}

```

```

 \@onelevel@sanitize\@gls@sanitized@tmp
 \edef\gls@dostsubst{%
 \noexpand\DTLsubstituteall\noexpand\gls@xdystring
 {\@gls@sanitized@tmp}{\expandonce\@gls@tmp}%
 }%
 \gls@dostsubst
 }%
 \let#1=\gls@xdystring
}
\newcommand{\@gls@checkmkidxchars}[1]{%
 \ifglsxindy
 \@gls@escbsdq{#1}%
 \else
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkquote#1\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescquote#1\@nil\""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescactual#1\@nil\?\?\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkactual#1\@nil??\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkbar#1\@nil||\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescbar#1\@nil|||\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checklevel#1\@nil!!\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 }%
 }%
 }%
 }%
 }%
 }%
 }%
 \fi
}
\def\@gls@updatechecked#1\@nil#2{\def#2{#1}}
\newtoks\@gls@tmpb
\def\@gls@checkquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkquote{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@quotechar\@gls@quotechar\@gls@quotechar}%
 \def\@gls@checkquote{\@gls@checkquote#3\null}%
 \fi
 \fi
}

```

```

\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkquote{\@gls@checkquote#2""\null}%
\else
\def\@gls@checkquote{\@gls@checkquote#2"#3\null}%
\fi
\fi
\@gls@checkquote
}
\def\@gls@checkescquote#1\#2\#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@quotechar
\@gls@quotechar\string\@\@gls@quotechar}%
\def\@gls@checkescquote{\@gls@checkescquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkescquote{\@gls@checkescquote#2""\null}%
\else
\def\@gls@checkescquote{\@gls@checkescquote#2\#3\null}%
\fi
\fi
\@gls@checkescquote
}
\def\@gls@checkescactual#1\?#2\?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@actualchar
\@gls@quotechar\string\@\@gls@actualchar}%
\def\@gls@checkescactual{\@gls@checkescactual#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@

```



```

\@gls@quotechar\string\ "@gls@actualchar}%
\ifx\null#3\null
\def\@gls@checkescactual{\@gls@checkescactual#2\?\?\null}%
\else
\def\@gls@checkescactual{\@gls@checkescactual#2\?#3\null}%
\fi
\fi
\@gls@checkescactual
}
\def\@gls@checkescbar#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\ "@gls@encapchar
\@gls@quotechar\string\ "@gls@encapchar}%
\def\@gls@checkescbar{\@gls@checkescbar#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\ "@gls@encapchar}%
\ifx\null#3\null
\def\@gls@checkescbar{\@gls@checkescbar#2\|\|\null}%
\else
\def\@gls@checkescbar{\@gls@checkescbar#2|#3\null}%
\fi
\fi
\@gls@checkescbar
}
\def\@gls@checkesclevel#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkesclevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\ "@gls@levelchar
\@gls@quotechar\string\ "@gls@levelchar}%
\def\@gls@checkesclevel{\@gls@checkesclevel#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\ "@gls@levelchar}%
\ifx\null#3\null

```

```

\def\@gls@checkesclevel{\@gls@checkesclevel#2\!\!\null}%
\else
\def\@gls@checkesclevel{\@gls@checkesclevel#2\!#3\null}%
\fi
\fi
\@gls@checkesclevel
}
\def\@gls@checkbar#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar\@gls@quotechar\@gls@encapchar}%
\def\@gls@checkbar{\@gls@checkbar#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar}%
\ifx\null#3\null
\def\@gls@checkbar{\@gls@checkbar#2||\null}%
\else
\def\@gls@checkbar{\@gls@checkbar#2|#3\null}%
\fi
\fi
\@gls@checkbar
}
\def\@gls@checklevel#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checklevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar\@gls@quotechar\@gls@levelchar}%
\def\@gls@checklevel{\@gls@checklevel#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar}%
\ifx\null#3\null
\def\@gls@checklevel{\@gls@checklevel#2!!\null}%
\else
\def\@gls@checklevel{\@gls@checklevel#2|#3\null}%
\fi

```

```

\fi
\@gls@checklevel
}
\def\@gls@checkactual#1?#2?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@actualchar\@gls@quotechar\@gls@actualchar}%
\def\@gls@checkactual{\@gls@checkactual#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@actualchar}%
\ifx\null#3\null
\def\@gls@checkactual{\@gls@checkactual#2??\null}%
\else
\def\@gls@checkactual{\@gls@checkactual#2?#3\null}%
\fi
\fi
\@gls@checkactual
}
\def\@gls@xdycheckquote#1"#2"#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@xdycheckquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\string"\string"}%
\def\@gls@xdycheckquote{\@gls@xdycheckquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\string"}%
\ifx\null#3\null
\def\@gls@xdycheckquote{\@gls@xdycheckquote#2""\null}%
\else
\def\@gls@xdycheckquote{\@gls@xdycheckquote#2"#3\null}%
\fi
\fi
\@gls@xdycheckquote
}
\edef\def@gls@xdycheckbackslash{%

```

```

\noexpand\def\noexpand\@gls@xdycheckbackslash##1\@backslashchar
##2\@backslashchar##3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter
{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={##1}%
\noexpand\ifx\noexpand\null##2\noexpand\null
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar\@backslashchar\@backslashchar}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar}%
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
\@backslashchar\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
##3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@xdycheckbackslash
}%
}
\def@gls@xdycheckbackslash

\newlength@gls@tmplen
\newcommand*\glsdohypertarget}[2]{%
\@glsshowtarget{#1}%
\settoheight@gls@tmplen}{#2}%
\raisebox@gls@tmplen}{\hypertarget{#1}-}{#2}%
}
\newcommand*\glsdohyperlink}[2]{%
\@glsshowtarget{#1}%
\hyperlink{#1}-}{#2}%
}
\newcommand*\glsdonohyperlink}[2]{#2}
\ifcsundef{hyperlink}%
{%
\let@glslink@glsdonohyperlink

```

```

}%
{%
 \let\@glslink\glsdohyperlink
}
\ifcsundef{hypertarget}%
{%
 \let\@glstarget\@secondoftwo
}%
{%
 \let\@glstarget\glsdohypertarget
}
\newcommand{\glsdisablehyper}{%
 \KV@glslink@hyperfalse
 \let\@glslink\glsdonohyperlink
 \let\@glstarget\@secondoftwo
}
\newcommand{\glsenablehyper}{%
 \KV@glslink@hypertrue
 \let\@glslink\glsdohyperlink
 \let\@glstarget\glsdohypertarget
}
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
\newrobustcmd*{\gls}{\@gls@hyp@opt\@gls}
\newcommand*{\@gls}[2][]{%
 \new@ifnextchar[{\@gls@{#1}{#2}}{\@gls@{#1}{#2} []}%
}
\def\@gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glsescapscase\@firstofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Gls}{\@gls@hyp@opt\@Gls}
\newcommand*{\@Gls}[2][]{%
 \new@ifnextchar[{\@Gls@{#1}{#2}}{\@Gls@{#1}{#2} []}%
}
\def\@Gls@#1#2[#3]{%

```

```

\glsdoifexists{#2}%
{%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gl@link[#1]{#2}{\@glo@text}%
 \ifKV@gl@link@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
}%
\glspostlinkhook
}
\newrobustcmd*{\GLS}{\@gl@hyp@opt\@GLS}
\newcommand*{\@GLS}[2] []{%
 \new@ifnextchar[{\@GLS@{#1}{#2}}{\@GLS@{#1}{#2} []}%
}
\def\@GLS@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gl@link[#1]{#2}{\@glo@text}%
 \ifKV@gl@link@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\glspl}{\@gl@hyp@opt\@glspl}
\newcommand*{\@glspl}[2] []{%
 \new@ifnextchar[{\@glspl@{#1}{#2}}{\@glspl@{#1}{#2} []}%
}
\def\@glspl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glscustomtext\@empty

```

```

\def\glsinsert{#3}%
\def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\ifKV@glslink@local
 \glslocalunset{#2}%
\else
 \glsunset{#2}%
\fi
}%
\glspostlinkhook
}
\newrobustcmd*{\Glspl}{\@gls@hyp@opt\@Glspl}
\newcommand*{\@Glspl}[2][{}]{%
 \new@ifnextchar[{\@Glspl@{#1}{#2}}{\@Glspl@{#1}{#2}[]}%
}
\def\@Glspl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\gls@scaps\@secondofthree
 \let\gls@customtext\@empty
 \def\glsinsert{#3}%
 \def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\GLSp1}{\@gls@hyp@opt\@GLSp1}
\newcommand*{\@GLSp1}[2][{}]{%
 \new@ifnextchar[{\@GLSp1@{#1}{#2}}{\@GLSp1@{#1}{#2}[]}%
}
\def\@GLSp1@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\gls@scaps\@thirdofthree
 \let\gls@customtext\@empty
 \def\glsinsert{#3}%
 \def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else

```

```

 \glsunset{#2}%
 \fi
}%
\glspostlinkhook
}
\newrobustcmd*{\glsdisp}{\@gls@hyp@opt\@glsdisp}
\newcommand*{\@glsdisp}[3] []{%
 \glsdoifexists{#2}{%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glsescapscase\@firstofthree
 \def\glscustomtext{#3}%
 \def\glsinsert{}%
 \def\glo@text{\csname gls@glstype @entryfmt\endcsname}%
 \@gls@link{#1}{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newcommand*{\@gls@link@nocheckfirsthyper}{}
\newcommand{\@gls@field@link}[3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \@gls@link{#1}{#2}{#3}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\glsstext}{\@gls@hyp@opt\@glsstext}
\newcommand*{\@glsstext}[2] []{%
 \new@ifnextchar[{\@glsstext@{#1}{#2}}{\@glsstext@{#1}{#2} []}]
\def\@glsstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrytext{#2}#3}%
}
\newrobustcmd*{\GLStext}{\@gls@hyp@opt\@GLStext}
\newcommand*{\@GLStext}[2] []{%
 \new@ifnextchar[{\@GLStext@{#1}{#2}}{\@GLStext@{#1}{#2} []}]
\def\@GLStext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentrytext{#2}#3}}%
}
\newrobustcmd*{\Glstext}{\@gls@hyp@opt\@Glstext}
\newcommand*{\@Glstext}[2] []{%
 \new@ifnextchar[{\@Glstext@{#1}{#2}}{\@Glstext@{#1}{#2} []}]
\def\@Glstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentrytext{#2}#3}%
}
}

```



```

\newrobustcmd*{\glsfirst}{\@gls@hyp@opt\@glsfirst}
\newcommand*{\@glsfirst}[2] [] {%
 \new@ifnextchar[{\@glsfirst@{#1}{#2}}{\@glsfirst@{#1}{#2} []}]
\def\@glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\Glsfirst}{\@gls@hyp@opt\@Glsfirst}
\newcommand*{\@Glsfirst}[2] [] {%
 \new@ifnextchar[{\@Glsfirst@{#1}{#2}}{\@Glsfirst@{#1}{#2} []}]
\def\@Glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirst{#2}#3}%
}
\newrobustcmd*{\GLSfirst}{\@gls@hyp@opt\@GLSfirst}
\newcommand*{\@GLSfirst}[2] [] {%
 \new@ifnextchar[{\@GLSfirst@{#1}{#2}}{\@GLSfirst@{#1}{#2} []}]
\def\@GLSfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryfirst{#2}#3}}%
}
\newrobustcmd*{\glsplural}{\@gls@hyp@opt\@glsplural}
\newcommand*{\@glsplural}[2] [] {%
 \new@ifnextchar[{\@glsplural@{#1}{#2}}{\@glsplural@{#1}{#2} []}]
\def\@glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryplural{#2}#3}%
}
\newrobustcmd*{\Glsplural}{\@gls@hyp@opt\@Glsplural}
\newcommand*{\@Glsplural}[2] [] {%
 \new@ifnextchar[{\@Glsplural@{#1}{#2}}{\@Glsplural@{#1}{#2} []}]
\def\@Glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryplural{#2}#3}%
}
\newrobustcmd*{\GLSplural}{\@gls@hyp@opt\@GLSplural}
\newcommand*{\@GLSplural}[2] [] {%
 \new@ifnextchar[{\@GLSplural@{#1}{#2}}{\@GLSplural@{#1}{#2} []}]
\def\@GLSplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryplural{#2}#3}}%
}
\newrobustcmd*{\glsfirstplural}{\@gls@hyp@opt\@glsfirstplural}
\newcommand*{\@glsfirstplural}[2] [] {%
 \new@ifnextchar[{\@glsfirstplural@{#1}{#2}}{\@glsfirstplural@{#1}{#2} []}]
\def\@glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirstplural{#2}#3}%
}
\newrobustcmd*{\Glsfirstplural}{\@gls@hyp@opt\@Glsfirstplural}
\newcommand*{\@Glsfirstplural}[2] [] {%
 \new@ifnextchar[{\@Glsfirstplural@{#1}{#2}}{\@Glsfirstplural@{#1}{#2} []}]
\def\@Glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirstplural{#2}#3}%
}
\newrobustcmd*{\GLSfirstplural}{\@gls@hyp@opt\@GLSfirstplural}
\newcommand*{\@GLSfirstplural}[2] [] {%

```

```

\new@ifnextchar[{\@GLSfirstplural@{#1}{#2}}{\@GLSfirstplural@{#1}{#2} []}]
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryfirstplural{#2}#3}}%
}
\newrobustcmd*{\glsname}{\@gls@hyp@opt\@glsname}
\newcommand*{\@glsname}[2] []{%
 \new@ifnextchar[{\@glsname@{#1}{#2}}{\@glsname@{#1}{#2} []}]
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryname{#2}#3}%
}
\newrobustcmd*{\Glsname}{\@gls@hyp@opt\@Glsname}
\newcommand*{\@Glsname}[2] []{%
 \new@ifnextchar[{\@Glsname@{#1}{#2}}{\@Glsname@{#1}{#2} []}]
\def\@Glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryname{#2}#3}%
}
\newrobustcmd*{\GLSname}{\@gls@hyp@opt\@GLSname}
\newcommand*{\@GLSname}[2] []{%
 \new@ifnextchar[{\@GLSname@{#1}{#2}}{\@GLSname@{#1}{#2} []}]
\def\@GLSname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryname{#2}#3}}%
}
\newrobustcmd*{\glsdesc}{\@gls@hyp@opt\@glsdesc}
\newcommand*{\@glsdesc}[2] []{%
 \new@ifnextchar[{\@glsdesc@{#1}{#2}}{\@glsdesc@{#1}{#2} []}]
\def\@glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrydesc{#2}#3}%
}
\newrobustcmd*{\Glsdesc}{\@gls@hyp@opt\@Glsdesc}
\newcommand*{\@Glsdesc}[2] []{%
 \new@ifnextchar[{\@Glsdesc@{#1}{#2}}{\@Glsdesc@{#1}{#2} []}]
\def\@Glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentrydesc{#2}#3}%
}
\newrobustcmd*{\GLSdesc}{\@gls@hyp@opt\@GLSdesc}
\newcommand*{\@GLSdesc}[2] []{%
 \new@ifnextchar[{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}]
\def\@GLSdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentrydesc{#2}#3}}%
}
\newrobustcmd*{\glsdescplural}{\@gls@hyp@opt\@glsdescplural}
\newcommand*{\@glsdescplural}[2] []{%
 \new@ifnextchar[{\@glsdescplural@{#1}{#2}}{\@glsdescplural@{#1}{#2} []}]
\def\@glsdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\Glsdescplural}{\@gls@hyp@opt\@Glsdescplural}
\newcommand*{\@Glsdescplural}[2] []{%
 \new@ifnextchar[{\@Glsdescplural@{#1}{#2}}{\@Glsdescplural@{#1}{#2} []}]
\def\@Glsdescplural@#1#2[#3]{%

```

```

 \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\newcommand*{\@GLSdescplural}[2] [] {%
 \new@ifnextchar [{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
\def \@GLSdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentrydescplural{#2}#3}}%
}
\newrobustcmd*{\glssymbol}{\@gls@hyp@opt\@glssymbol}
\newcommand*{\@glssymbol}[2] [] {%
 \new@ifnextchar [{\@glssymbol@{#1}{#2}}{\@glssymbol@{#1}{#2} []}]
\def \@glssymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrysymbol{#2}#3}%
}
\newrobustcmd*{\Glsymbol}{\@gls@hyp@opt\@Glsymbol}
\newcommand*{\@Glsymbol}[2] [] {%
 \new@ifnextchar [{\@Glsymbol@{#1}{#2}}{\@Glsymbol@{#1}{#2} []}]
\def \@Glsymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentrysymbol{#2}#3}%
}
\newrobustcmd*{\GLSsymbol}{\@gls@hyp@opt\@GLSsymbol}
\newcommand*{\@GLSsymbol}[2] [] {%
 \new@ifnextchar [{\@GLSsymbol@{#1}{#2}}{\@GLSsymbol@{#1}{#2} []}]
\def \@GLSsymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentrysymbol{#2}#3}}%
}
\newrobustcmd*{\glssymbolplural}{\@gls@hyp@opt\@glssymbolplural}
\newcommand*{\@glssymbolplural}[2] [] {%
 \new@ifnextchar [{\@glssymbolplural@{#1}{#2}}{\@glssymbolplural@{#1}{#2} []}]
\def \@glssymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\Glsymbolplural}{\@gls@hyp@opt\@Glsymbolplural}
\newcommand*{\@Glsymbolplural}[2] [] {%
 \new@ifnextchar [{\@Glsymbolplural@{#1}{#2}}{\@Glsymbolplural@{#1}{#2} []}]
\def \@Glsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentrysymbolplural{#2}#3}}%
}
\newrobustcmd*{\glsuseri}{\@gls@hyp@opt\@glsuseri}
\newcommand*{\@glsuseri}[2] [] {%
 \new@ifnextchar [{\@glsuseri@{#1}{#2}}{\@glsuseri@{#1}{#2} []}]
\def \@glsuseri@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryuseri{#2}#3}%
}
}

```

```

\newrobustcmd*{\Glsuseri}{\@gls@hyp@opt\@Glsuseri}
\newcommand*{\@Glsuseri}[2][{}]{%
 \new@ifnextchar[{\@Glsuseri@{#1}{#2}}{\@Glsuseri@{#1}{#2}[]]}
\def\@Glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuseri{#2}#3}%
}
\newrobustcmd*{\GLSuseri}{\@gls@hyp@opt\@GLSuseri}
\newcommand*{\@GLSuseri}[2][{}]{%
 \new@ifnextchar[{\@GLSuseri@{#1}{#2}}{\@GLSuseri@{#1}{#2}[]]}
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentryuseri{#2}#3}}%
}
\newrobustcmd*{\glsuserii}{\@gls@hyp@opt\@glsuserii}
\newcommand*{\@glsuserii}[2][{}]{%
 \new@ifnextchar[{\@glsuserii@{#1}{#2}}{\@glsuserii@{#1}{#2}[]]}
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}
\newcommand*{\@Glsuserii}[2][{}]{%
 \new@ifnextchar[{\@Glsuserii@{#1}{#2}}{\@Glsuserii@{#1}{#2}[]]}
\def\@Glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
\newrobustcmd*{\GLSuserii}{\@gls@hyp@opt\@GLSuserii}
\newcommand*{\@GLSuserii}[2][{}]{%
 \new@ifnextchar[{\@GLSuserii@{#1}{#2}}{\@GLSuserii@{#1}{#2}[]]}
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentryuserii{#2}#3}}%
}
\newrobustcmd*{\glsuseriii}{\@gls@hyp@opt\@glsuseriii}
\newcommand*{\@glsuseriii}[2][{}]{%
 \new@ifnextchar[{\@glsuseriii@{#1}{#2}}{\@glsuseriii@{#1}{#2}[]]}
\def\@glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
\newcommand*{\@Glsuseriii}[2][{}]{%
 \new@ifnextchar[{\@Glsuseriii@{#1}{#2}}{\@Glsuseriii@{#1}{#2}[]]}
\def\@Glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentryuseriii{#2}#3}}%
}
\newrobustcmd*{\GLSuseriii}{\@gls@hyp@opt\@GLSuseriii}
\newcommand*{\@GLSuseriii}[2][{}]{%
 \new@ifnextchar[{\@GLSuseriii@{#1}{#2}}{\@GLSuseriii@{#1}{#2}[]]}
\def\@GLSuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentryuseriii{#2}#3}}%
}
\newrobustcmd*{\glsuseriv}{\@gls@hyp@opt\@glsuseriv}
\newcommand*{\@glsuseriv}[2][{}]{%

```

```

 \new@ifnextchar [{\@glsuseriv@{#1}{#2}} {\@glsuseriv@{#1}{#2} [] }
\def \@glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\glsentryuseriv{#2}#3}%
}
\newrobustcmd* {\Glsuseriv} {\@gls@hyp@opt \@Glsuseriv}
\newcommand* {\@Glsuseriv}[2] [] {%
 \new@ifnextchar [{\@Glsuseriv@{#1}{#2}} {\@Glsuseriv@{#1}{#2} [] }
\def \@Glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\Glsentryuseriv{#2}#3}%
}
\newrobustcmd* {\GLSuseriv} {\@gls@hyp@opt \@GLSuseriv}
\newcommand* {\@GLSuseriv}[2] [] {%
 \new@ifnextchar [{\@GLSuseriv@{#1}{#2}} {\@GLSuseriv@{#1}{#2} [] }
\def \@GLSuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\mfirstucMakeUppercase{\glsentryuseriv{#2}#3}}%
}
\newrobustcmd* {\glsuserv} {\@gls@hyp@opt \@glsuserv}
\newcommand* {\@glsuserv}[2] [] {%
 \new@ifnextchar [{\@glsuserv@{#1}{#2}} {\@glsuserv@{#1}{#2} [] }
\def \@glsuserv@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\glsentryuserv{#2}#3}%
}
\newrobustcmd* {\Glsuserv} {\@gls@hyp@opt \@Glsuserv}
\newcommand* {\@Glsuserv}[2] [] {%
 \new@ifnextchar [{\@Glsuserv@{#1}{#2}} {\@Glsuserv@{#1}{#2} [] }
\def \@Glsuserv@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\mfirstucMakeUppercase{\glsentryuserv{#2}#3}}%
}
\newrobustcmd* {\glsuservi} {\@gls@hyp@opt \@glsuservi}
\newcommand* {\@glsuservi}[2] [] {%
 \new@ifnextchar [{\@glsuservi@{#1}{#2}} {\@glsuservi@{#1}{#2} [] }
\def \@glsuservi@#1#2[#3] {%
 \@gls@field@link{#1}{#2} {\glsentryuservi{#2}#3}%
}
\newrobustcmd* {\GLSuservi} {\@gls@hyp@opt \@GLSuservi}
\newcommand* {\@GLSuservi}[2] [] {%
 \new@ifnextchar [{\@GLSuservi@{#1}{#2}} {\@GLSuservi@{#1}{#2} [] }
\def \@GLSuservi@#1#2[#3] {%

```

```

\@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryuservi{#2}#3}}%
}
\newrobustcmd*{\acrshort}{\@gls@hyp@opt\ns@acrshort}
\newcommand*{\ns@acrshort}[2] [] {%
 \new@ifnextchar[{\@acrshort{#1}{#2}}{\@acrshort{#1}{#2} []}%
}
\def\@acrshort#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrshort}{\@gls@hyp@opt\ns@Acrshort}
\newcommand*{\ns@Acrshort}[2] [] {%
 \new@ifnextchar[{\@Acrshort{#1}{#2}}{\@Acrshort{#1}{#2} []}%
}
\def\@Acrshort#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\Glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshort}{\@gls@hyp@opt\ns@ACRshort}
\newcommand*{\ns@ACRshort}[2] [] {%
 \new@ifnextchar[{\@ACRshort{#1}{#2}}{\@ACRshort{#1}{#2} []}%
}
\def\@ACRshort#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree

```

```

\let\glsinsert\@empty
\def\glscustomtext{%
 \mfirstucMakeUppercase{\acronymfont{\glsentryshort{#2}}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\acrshortpl}{\@gls@hyp@opt\ns@acrshortpl}
\newcommand*{\ns@acrshortpl}[2][]{%
 \new@ifnextchar[{\@acrshortpl{#1}{#2}}{\@acrshortpl{#1}{#2} []}%
}
\def\@acrshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrshortpl}{\@gls@hyp@opt\ns@Acrshortpl}
\newcommand*{\ns@Acrshortpl}[2][]{%
 \new@ifnextchar[{\@Acrshortpl{#1}{#2}}{\@Acrshortpl{#1}{#2} []}%
}
\def\@Acrshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glsapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\Glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshortpl}{\@gls@hyp@opt\ns@ACRshortpl}
\newcommand*{\ns@ACRshortpl}[2][]{%
 \new@ifnextchar[{\@ACRshortpl{#1}{#2}}{\@ACRshortpl{#1}{#2} []}%
}

```

```

\def\@CRshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\acronymfont{\glsentryshortpl{#2}}#3}%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlong}{\@gl@hyp@opt\@ns@acrlong}
\newcommand*{\ns@acrlong}[2][{}]{%
 \new@ifnextchar[{\@acrlong{#1}{#2}}{\@acrlong{#1}{#2}[]}%
}
\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsentrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlong}{\@gl@hyp@opt\@ns@Acrlong}
\newcommand*{\ns@Acrlong}[2][{}]{%
 \new@ifnextchar[{\@Acrlong{#1}{#2}}{\@Acrlong{#1}{#2}[]}%
}
\def\@Acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%

```



```

}%
\glspostlinkhook
}
\newrobustcmd*{\ACRlong}{\@gls@hyp@opt\ns@ACRlong}
\newcommand*{\ns@ACRlong}[2] [] {%
 \new@ifnextchar [{\@ACRlong{#1}{#2}}{\@ACRlong{#1}{#2} []}%
}
\def\@ACRlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\glsentrylong{#2}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlongpl}{\@gls@hyp@opt\ns@acrlongpl}
\newcommand*{\ns@acrlongpl}[2] [] {%
 \new@ifnextchar [{\@acrlongpl{#1}{#2}}{\@acrlongpl{#1}{#2} []}%
}
\def\@acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlongpl}{\@gls@hyp@opt\ns@Acrlongpl}
\newcommand*{\ns@Acrlongpl}[2] [] {%
 \new@ifnextchar [{\@Acrlongpl{#1}{#2}}{\@Acrlongpl{#1}{#2} []}%
}
\def\@Acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%

```

```

\let\glsifplural\@firstoftwo
\let\glscapscase\@secondofthree
\let\glsinsert\@empty
\def\glscustomtext{%
 \Glsentrylongpl{#2}#3%
}%
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\ACRlongpl}{\@gls@hyp@opt\@ns@ACRlongpl}
\newcommand*{\ns@ACRlongpl}[2][{}]{%
 \new@ifnextchar[{\@ACRlongpl{#1}{#2}}{\@ACRlongpl{#1}{#2}[]}%
}
\def\@ACRlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glsapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\glsentrylongpl{#2}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newcommand*{\@gls@entry@field}[2]{%
 \csname glo@glsdetoklabel{#1}@#2\endcsname
}
\newcommand*{\glsletentryfield}[3]{%
 \letcs{#1}{glo@glsdetoklabel{#2}@#3}%
}
\newcommand*{\@Gls@entry@field}[2]{%
 \glsdoifexistsordo{#1}%
 {%
 \letcs\@glo@text{glo@glsdetoklabel{#1}@#2}%
 \ifdef\@glo@text
 {%
 \xmakefirstuc{\@glo@text}%
 }%
 }%
 ??\PackageError{glossaries}{The field ‘#2’ doesn’t exist for glossary
 entry ‘\glsdetoklabel{#1}’}{Check you have correctly spelt the entry
 label and the field name}%
}%
}%

```

```

 ???
 }%
}
\newcommand*\glsentryname}[1]{\@gls@entry@field{#1}{name}}
\newrobustcmd*\Glsentryname}[1]{%
 \@Gls@entryname{#1}%
}
\newcommand*\@Gls@entryname}[1]{%
 \@Gls@entry@field{#1}{name}%
}
\newcommand*\@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \letcs\@glo@text{glo\@glsdetoklabel{#1}@name}%
 \expandafter\@gls@getbody\@glo@text{}\@nil
 \expandafter\ifx\@gls@body\glsentrylong\relax
 \expandafter\Glsentrylong\@gls@rest
 \else
 \expandafter\ifx\@gls@body\glsentryshort\relax
 \expandafter\Glsentryshort\@gls@rest
 \else
 \expandafter\ifx\@gls@body\acronymfont\relax
 {%
 \let\glsentryshort\Glsentryshort
 \@glo@text
 }%
 \else
 \expandafter\ifx\@gls@body\glsshortaccessdisplay\relax
 {%
 \let\glsentryshort\Glsentryshort
 \@glo@text
 }%
 \else
 \xmakefirstuc{\@glo@text}%
 \fi
 \fi
 \fi
 }%
 {%
 \@Gls@entry@field{#1}{name}%
 }%
}
\newcommand*\glsentrydesc}[1]{\@gls@entry@field{#1}{desc}}
\newrobustcmd*\Glsentrydesc}[1]{%
 \@Gls@entry@field{#1}{desc}%
}
\newcommand*\glsentrydescplural}[1]{%
 \@gls@entry@field{#1}{descplural}%
}
}

```

```

\newrobustcmd*{\Glsentrydescplural}[1]{%
 \@Gls@entry@field{#1}{descplural}%
}
\newcommand*{\glsentrytext}[1]{\@gls@entry@field{#1}{text}}
\newrobustcmd*{\Glsentrytext}[1]{%
 \@Gls@entry@field{#1}{text}%
}
\newcommand*{\glsentryplural}[1]{%
 \@gls@entry@field{#1}{plural}%
}
\newrobustcmd*{\Glsentryplural}[1]{%
 \@Gls@entry@field{#1}{plural}%
}
\newcommand*{\glsentrysymbol}[1]{%
 \@gls@entry@field{#1}{symbol}%
}
\newrobustcmd*{\Glsentrysymbol}[1]{%
 \@Gls@entry@field{#1}{symbol}%
}
\newcommand*{\glsentrysymbolplural}[1]{%
 \@gls@entry@field{#1}{symbolplural}%
}
\newrobustcmd*{\Glsentrysymbolplural}[1]{%
 \@Gls@entry@field{#1}{symbolplural}%
}
\newcommand*{\glsentryfirst}[1]{%
 \@gls@entry@field{#1}{first}%
}
\newrobustcmd*{\Glsentryfirst}[1]{%
 \@Gls@entry@field{#1}{first}%
}
\newcommand*{\glsentryfirstplural}[1]{%
 \@gls@entry@field{#1}{firstpl}%
}
\newrobustcmd*{\Glsentryfirstplural}[1]{%
 \@Gls@entry@field{#1}{firstpl}%
}
\newrobustcmd*{\@glsentrytitlecase}[2]{%
 \glsdoifexists{#1}%
 {%
 \glsfieldfetch{#1}{#2}{\@gls@value}%
 \xcapitalisewords{\@gls@value}%
 }%
}
\ifdef\texorpdfstring
{
 \newcommand*{\glsentrytitlecase}[2]{%
 \texorpdfstring
 {\@glsentrytitlecase{#1}{#2}}%
 {\@gls@entry@field{#1}{#2}}%
}

```

```

 }
 }
 {
 \newcommand*\glsentrytitlecase}[2]{\@glsentrytitlecase{#1}{#2}}
 }
 \newcommand*\glsentrytype}[1]{\@gls@entry@field{#1}{type}}
 \newcommand*\glsentrysort}[1]{%
 \@gls@entry@field{#1}{sort}%
 }
 \newcommand*\glsentryparent}[1]{%
 \@gls@entry@field{#1}{parent}%
 }
 \newcommand*\glsentryuseri}[1]{%
 \@gls@entry@field{#1}{useri}%
 }
 \newrobustcmd*\Glsentryuseri}[1]{%
 \@Gls@entry@field{#1}{useri}%
 }
 \newcommand*\glsentryuserii}[1]{%
 \@gls@entry@field{#1}{userii}%
 }
 \newrobustcmd*\Glsentryuserii}[1]{%
 \@Gls@entry@field{#1}{userii}%
 }
 \newcommand*\glsentryuseriii}[1]{%
 \@gls@entry@field{#1}{useriii}%
 }
 \newrobustcmd*\Glsentryuseriii}[1]{%
 \@Gls@entry@field{#1}{useriii}%
 }
 \newcommand*\glsentryuseriv}[1]{%
 \@gls@entry@field{#1}{useriv}%
 }
 \newrobustcmd*\Glsentryuseriv}[1]{%
 \@Gls@entry@field{#1}{useriv}%
 }
 \newcommand*\glsentryuserv}[1]{%
 \@gls@entry@field{#1}{userv}%
 }
 \newrobustcmd*\Glsentryuserv}[1]{%
 \@Gls@entry@field{#1}{userv}%
 }
 \newcommand*\glsentryuservi}[1]{%
 \@gls@entry@field{#1}{uservi}%
 }
 \newrobustcmd*\Glsentryuservi}[1]{%
 \@Gls@entry@field{#1}{uservi}%
 }
 \newcommand*\glsentryshort}[1]{\@gls@entry@field{#1}{short}}
 \newrobustcmd*\Glsentryshort}[1]{%

```

```

 \@Gls@entry@field{#1}{short}%
 }
 \newcommand*\glentryshortpl}[1]{\@Gls@entry@field{#1}{shortpl}}
 \newrobustcmd*\Glsentryshortpl}[1]{%
 \@Gls@entry@field{#1}{shortpl}%
 }
 \newcommand*\glentrylong}[1]{\@Gls@entry@field{#1}{long}}
 \newrobustcmd*\Glsentrylong}[1]{%
 \@Gls@entry@field{#1}{long}%
 }
 \newcommand*\glentrylongpl}[1]{\@Gls@entry@field{#1}{longpl}}
 \newrobustcmd*\Glsentrylongpl}[1]{%
 \@Gls@entry@field{#1}{longpl}%
 }
 \newcommand*\glentryfull}[1]{%
 \acrfullformat{\glentrylong{#1}}{\acronymfont{\glentryshort{#1}}}%
 }
 \newrobustcmd*\Glsentryfull}[1]{%
 \acrfullformat{\Glsentrylong{#1}}{\acronymfont{\glentryshort{#1}}}%
 }
 \newcommand*\glentryfullpl}[1]{%
 \acrfullformat{\glentrylongpl{#1}}{\acronymfont{\glentryshortpl{#1}}}%
 }
 \newrobustcmd*\Glsentryfullpl}[1]{%
 \acrfullformat{\Glsentrylongpl{#1}}{\acronymfont{\glentryshortpl{#1}}}%
 }
 \newcommand*\glentrynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \@Gls@entry@field{#1}{numberlist}%
 }%
 }
 \@ifpackageloaded{hyperref} {%
 \newcommand*\glsdisplaynumberlist}[1]{%
 \GlossariesWarning
 {%
 \string\glsdisplaynumberlist\space
 doesn't work with hyperref.^^JUsing
 \string\glentrynumberlist\space instead%
 }%
 \glentrynumberlist{#1}%
 }%
 }%
 {%
 \newcommand*\glsdisplaynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \bgroup
 \edef\@glo@label{\glsdetoklabel{#1}}%
 \let\@org@glsnumberformat\glsnumberformat

```

```

\def\glsnumberformat##1{##1}%
\protected@edef\the@numberlist{%
 \csname glo@\@glo@label @numberlist\endcsname}%
\def\@gls@numlist@sep{}%
\def\@gls@numlist@nextsep{}%
\def\@gls@numlist@lastsep{}%
\def\@gls@thislist{}%
\def\@gls@donext@def{}%
\renewcommand\do[1]{%
 \protected@edef\@gls@thislist{%
 \@gls@thislist
 \noexpand\@gls@numlist@sep
 ##1%
 }%
 \let\@gls@numlist@sep\@gls@numlist@nextsep
 \def\@gls@numlist@nextsep{\glsnumlistsep}%
 \@gls@donext@def
 \def\@gls@donext@def{%
 \def\@gls@numlist@lastsep{\glsnumlistlastsep}%
 }%
}%
\expandafter \glsnumlistparser \expandafter{\the@numberlist}%
\let\@gls@numlist@sep\@gls@numlist@lastsep
\@gls@thislist
\egroup
}%
}
}
\newcommand*\glsnumlistsep{, }
\newcommand*\glsnumlistlastsep{ \& }
\newcommand*\gls hyperlink}[2][\glsentrytext{\@glo@label}]{%
 \def\@glo@label{#2}%
 \@glslink{\glo@linkprefix\glsdetoklabel{#2}}{#1}}
\define@key{glossadd}{counter}{\def\@gls@counter{#1}}
\define@key{glossadd}{format}{\def\@glsnumberformat{#1}}
\define@key{glossadd}{types}{\def\@glo@type{#1}}
\newrobustcmd*\glsadd}[2][{}]{%
 \@gls@adjustmode
 \glsdoifexists{#2}%
 {%
 \def\@glsnumberformat{\glsnumberformat}%
 \edef\@gls@counter{\csname glo@\glsdetoklabel{#2}@counter\endcsname}%
 \setkeys{glossadd}{#1}%
 \@gls@saveentrycounter
 \@gls@setsort{#2}%
 \@do@wrglossary{#2}%
 }%
}
\newcommand*\@gls@adjustmode{}
\AtBeginDocument{\renewcommand*\@gls@adjustmode{\ifvmode\mbox{}\fi}}

```

```

\newrobustcmd*\glsaddall}[1] [] {%
 \edef\glo@type{\@glo@types}%
 \setkeys{glossadd}{#1}%
 \forallglsentries[\@glo@type]{\@glo@entry}{%
 \glsadd[#1]{\@glo@entry}%
 }%
}
\newrobustcmd*\glsaddallunused}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glo@entry}%
 {%
 \ifglsused{\@glo@entry}{\@glsadd[format=glsignore]{\@glo@entry}}%
 }%
}
\newcommand*\glsignore}[1]{}
\edef\glsopenbrace{\expandafter\@gobble\string\{ }
\edef\glsclosebrace{\expandafter\@gobble\string\} }
\edef\glsbackslash{\expandafter\@gobble\string\ }
\edef\glsquote#1{\string"#1\string"}
\edef\glspercentchar{\expandafter\@gobble\string\% }
\edef\glsstildechar{\string~ }
\ifglxindy
 \newcommand*\@glsfirstletter}{A}
\fi
\newcommand*\GlsSetXdyFirstLetterAfterDigits}{%
 \@ifstar\s@GlsSetXdyFirstLetterAfterDigits\@GlsSetXdyFirstLetterAfterDigits}
\ifglxindy
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*\@glsfirstletter}{#1}}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*\@glsfirstletter}{#1}%
 \@onelevel@sanitize\@glsfirstletter
 }
\else
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \glsnoxywarning\GlsSetXdyFirstLetterAfterDigits}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits}{%
 \GlsSetXdyFirstLetterAfterDigits
 }
\fi
\ifglxindy
 \newcommand*\@xdynumbergrouporder}{:before \string"\@glsfirstletter\string"}
\fi
\newcommand*\GlsSetXdyNumberGroupOrder}[1]{%
 \@ifstar\s@GlsSetXdyNumberGroupOrder\@GlsSetXdyNumberGroupOrder
}
\ifglxindy
 \newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*\@xdynumbergrouporder}{#1}%
 }
 \newcommand*\s@GlsSetXdyNumberGroupOrder}[1]{%

```



```

\renewcommand*\@xdynumbergrouporder}{#1}%
\@onelevel@sanitize\@xdynumbergrouporder
}
\else
\newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
\glsnoxywarning\GlsSetXdyNumberGroupOrder}
\newcommand*\s@GlsSetXdyNumberGroupOrder}{%
\@GlsSetXdyNumberGroupOrder}
\fi
\newcommand*\@glsminrange}{2}
\ifglsxindy
\newcommand*\@GlsSetXdyMinRangeLength}[1]{%
\renewcommand*\@glsminrange}{#1}}
\else
\newcommand*\@GlsSetXdyMinRangeLength}[1]{%
\glsnoxywarning\GlsSetXdyMinRangeLength}
\fi

\ifglsxindy
\def\writeist{%
\ifundef\glswrite{\newwrite\glswrite}{}%
\@gls@addpredefinedattributes
\openout\glswrite=\istfilename
\write\glswrite{;; xindy style file created by the glossaries
package}%
\write\glswrite{;; for document '\jobname' on
\the\year-\the\month-\the\day}%
\write\glswrite{^^J; required styles^^J}
\@for\@xdystyle:=\@xdyrequiredstyles\do{%
\ifx\@xdystyle\@empty
\else
\protected@write\glswrite}{(require
\string"\@xdystyle.xdy\string")}%
\fi
}%
\write\glswrite{^^J%
; list of allowed attributes (number formats)^^J}%
\write\glswrite{(define-attributes ((\@xdyattributes)))}%
\write\glswrite{^^J; user defined alphabets^^J}%
\write\glswrite{\@xdyuseralphabets}%
\write\glswrite{^^J; location class definitions^^J}%
\@for\@gls@classI:=\@gls@xdy@locationlist\do{%
\protected@write\glswrite}{(define-location-class
\string"\@gls@classI\string"^^J\space\space\space
(
:sep "{ }{"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
:sep "}"
)
^^J\space\space\space

```

```

: min-range-length \@glsminrange^^J%
)
}%
{%
\@for\@gls@classII:=\@gls@xdy@locationlist\do{%
\protected@write\glswrite{}\{(define-location-class
\string"\@gls@classII-\@gls@classI\string"
^^J\space\space\space
(
: sep "{"
\csname @gls@xdy@Lclass@\@gls@classII\endcsname\space
: sep "}\{"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
: sep "}"
)
^^J\space\space\space
: min-range-length \@glsminrange^^J%
)
}%
}%
}%
}%
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
:unverified)}%
\write\glswrite{(markup-crossref-list
: class \string"see\string"^^J\space\space\space
: open \string"\string\glsseeformat\string"
: close \string"{}\string")}%
\@xdycrossrefhook
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
(\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
: open \string"\string
\glossarysection[\string\glossarytoctitle]{\string
\glossarytitle}\string\glossarypreamble}%
\@for\@this@ctr:=\@xdycounters\do{%
{%
\@for\@this@attr:=\@xdyattributelist\do{%
\protected@write\glswrite{}\{\string\providecommand*
\expandafter\string
\csname glsX\@this@ctr X\@this@attr\endcsname[2]%
{%
\string\setentrycounter
[\expandafter\@gobble\string\#1]{\@this@ctr}%
\expandafter\string

```

```

 \csname \@this@attr\endcsname
 {\expandafter@gobble\string\#2}%
 }%
} %
} %
} %
} %
\write\glswrite{%
 \string\begin
 {theglossary}\string\glossaryheader\glstildechar n\string" ^^J\space
 \space\space:close \string" \glpercentchar\glstildechar n\string
 \end{theglossary}\string\glossarypostamble
 \glstildechar n\string" ^^J\space\space\space
 :tree)}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \glstildechar n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\glsclosebrace\string")}%
\write\glswrite{(markup-locref-list
 :sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
 :sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffixF
\@onelevel@sanitize\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffixF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffixFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
 :open-head \string"\string\glsgroupheading
 \glsopenbrace\string"^^J\space\space\space
 :close-head \string"\glsclosebrace\string")}%

```

```

\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}
\write\glswrite{@xdysortrules}%
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
}
\else
\edef\@gls@actualchar{\string?}
\edef\@gls@encapchar{\string|}
\edef\@gls@levelchar{\string!}
\edef\@gls@quotechar{\string"}%
\let\GlsSetQuote\gls@nosetquote
\def\writeist{\relax
\ifundef{\glswrite}{\newwrite\glswrite}{}\relax
\openout\glswrite=\istfilename
\write\glswrite{\glspercentchar\space makeindex style file
created by the glossaries package}
\write\glswrite{\glspercentchar\space for document
'jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '@gls@actualchar'}
\write\glswrite{encap '@gls@encapchar'}
\write\glswrite{level '@gls@levelchar'}
\write\glswrite{quote '@gls@quotechar'}
\write\glswrite{keyword \string"\string"\glossaryentry\string"}
\write\glswrite{preamble \string"\string"\glossarysection[\string
\glossarytoctitle]{\string"\glossarytitle}\string
\glossarypreamble\string\n\string"\begin{theglossary}\string
\glossaryheader\string\n\string"}
\write\glswrite{postamble \string"\string%\string\n\string
\end{theglossary}\string"\glossarypostamble\string\n
\string"}
\write\glswrite{group_skip \string"\string"\glsgroupskip\string\n
\string"}
\write\glswrite{item_0 \string"\string%\string\n\string"}
\write\glswrite{item_1 \string"\string%\string\n\string"}
\write\glswrite{item_2 \string"\string%\string\n\string"}
\write\glswrite{item_01 \string"\string%\string\n\string"}
\write\glswrite{item_x1
\string"\string"\relax \string"\glsresetentrylist\string\n
\string"}
\write\glswrite{item_12 \string"\string%\string\n\string"}
\write\glswrite{item_x2
\string"\string"\relax \string"\glsresetentrylist\string\n
\string"}
\write\glswrite{delim_0 \string"\string\{\string
\glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_1 \string"\string\{\string\relax \string"}
\glossaryentrynumbers\string\{\string\relax \string"}

```

```

\write\glswrite{delim_2 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_t \string"\string}\string}\string"}
\write\glswrite{delim_n \string"\string\delimN \string"}
\write\glswrite{delim_r \string"\string\delimR \string"}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
 \string"\string\glsgroupheading\string\{\string"}
\write\glswrite{heading_suffix
 \string"\string}\string\relax
 \string\glsresetentrylist \string"}
\write\glswrite{symhead_positive \string"glssymbols\string"}
\write\glswrite{numhead_positive \string"glnumbers\string"}
\write\glswrite{page_compositor \string"glscpositor\string"}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
}
\fi
\newcommand*\GlsSetWriteIstHook}[1]{\renewcommand*\@gls@writeisthook}{#1}}
\@onlypremakeg\GlsSetWriteIstHook
\newcommand*\@gls@writeisthook}{
\ifglxsindy
\newcommand*\GlsSetQuote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\newcommand*\gls@nosetquote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\else
\newcommand*\GlsSetQuote}[1]{\edef\@gls@quotechar{\string#1}%
 \@ifpackageloaded{tracklang}%
 {%
 \IfTrackedLanguage{german}%
 {%
 \def\@gls@extramakeindexopts{-g}%
 }%
 }%
}
\edef\@gls@docheckquotedef{%
 \noexpand\def\noexpand\@gls@checkquote####1#1####2#1####3\noexpand\null{%
 \noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
 \noexpand\toks@={###1}%

```

```

\noexpand\ifx\noexpand\null###2\noexpand\null
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1#1\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1###3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkquote
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\renewcommand{\noexpand\@gls@checkmkidxchars}[1]{%
\noexpand\def\noexpand\@gls@checkedmkidx{}}%
\noexpand\expandafter\noexpand\@gls@checkquote###1\noexpand\@nil
#1#1\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}}%
\noexpand\expandafter\noexpand\@gls@checkesquote###1\noexpand\@nil
\expandonce{\csname#1\endcsname}\expandonce{\csname#1\endcsname}%
\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}}%
\noexpand\expandafter\noexpand\@gls@checkesactual###1\noexpand\@nil
\noexpand\?\noexpand\?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}}%
\noexpand\expandafter\noexpand\@gls@checkactual###1\noexpand\@nil
\noexpand?\noexpand?\noexpand\null

```

```

\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkbar###1\noexpand\@nil
\noexpand|\noexpand|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkesobar###1\noexpand\@nil
\noexpand||\noexpand||\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checklevel###1\noexpand\@nil
\noexpand!\noexpand!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkesquote###1%
\expandonce{\csname#1\endcsname}###2\expandonce{\csname#1\endcsname}%
###3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={###1}%
\noexpand\ifx\noexpand\null###2\noexpand\null
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@@gls@checkesquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@@gls@checkesquote{%
\noexpand\@gls@checkesquote###3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string
\expandonce{\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@@gls@checkesquote{%
\noexpand\@gls@checkesquote###2\expandonce{\csname#1\endcsname}%
\expandonce{\csname#1\endcsname}\noexpand\null}%

```

```

 \noexpand\else
 \noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####2\expandonce{\csname#1\endcsname}%
 ####3\noexpand\null}%
 \noexpand\fi
 \noexpand\fi
 \noexpand\@gls@checkescquote
 }%
}
\@gls@docheckquotedef
}
\newcommand*\@gls@nosetquote}[1]{\PackageError{glossaries}%
 {\string\GlsSetQuote\space not permitted here}%
 {Move \string\GlsSetQuote\space earlier in the preamble, as
 soon as possible after glossaries.sty has been loaded}}
\fi
\newcommand*\@gls@extramakeindexopts}[1]{
\newcommand*\@noist}{%
 \@gls@addpredefinedattributes
 \let\writeist\relax
}
\newcommand*\@makeglossary}[1]{%
 \ifglossaryexists{#1}%
 {%
 \ifglssavewrites
 \expandafter\newtoks\csname glo@#1@filetok\endcsname
 \else
 \expandafter\newwrite\csname glo@#1@file\endcsname
 \expandafter\@glsopenfile\csname glo@#1@file\endcsname{#1}%
 \fi
 \@gls@renewglossary
 \writeist
 }%
 {%
 \PackageError{glossaries}%
 {Glossary type ‘#1’ not defined}%
 {New glossaries must be defined before using \string\makeglossaries}%
 }%
}
\newcommand*\@glsopenfile}[2]{%
 \immediate\openout#1=\jobname.\csname @glotype@#2@out\endcsname
 \PackageInfo{glossaries}{Writing glossary file
 \jobname.\csname @glotype@#2@out\endcsname}%
}
\newcommand*\@closegls}[1]{%
 \closeout\csname glo@#1@file\endcsname
}
\ifglsexindy
\newcommand*\@gls@automake}[1]{%
 \ifglossaryexists{#1}

```



```

{%
 \@closegls{#1}%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-M ord/letorder }}%
 {\let\@gls@order\@empty}%
 \ifcsundef{@xdy@#1@language}%
 {\let\@gls@langmod\@xdy@main@language}%
 {\letcs\@gls@langmod{@xdy@#1@language}}%
 \edef\@gls@dothiswrite{\noexpand\write18{xindy
 -I xindy
 \@gls@order
 -L \@gls@langmod\space
 -M \@gls@istfilebase\space
 -C \@gls@codepage\space
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}}%
 }%
 \@gls@dothiswrite
}%
{%
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\else
\newcommand*{\@gls@automake}[1]{%
 \ifglossaryexists{#1}
 {%
 \@closegls{#1}%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-l }}%
 {\let\@gls@order\@empty}%
 \edef\@gls@dothiswrite{\noexpand\write18{makeindex \@gls@order
 -s \istfilename\space
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}}%
 }%
 \@gls@dothiswrite
 }%
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\fi
\ifglsxindy
\newcommand*{\@gls@automake@immediate}[1]{%
 \ifglossaryexists{#1}
 {%
 \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
 }

```

```

{%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-M ord/letorder }}%
{\let\@gls@order\@empty}%
\ifcsundef{@xdy@#1@language}%
{\let\@gls@langmod\@xdy@main@language}%
{\letcs\@gls@langmod{@xdy@#1@language}}%
\edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{xindy
-I xindy
\@gls@order
-L \@gls@langmod\space
-M \gls@istfilename\space
-C \gls@codepage\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{\GlossariesWarning{Can't make glossary '#1', it doesn't exist}}%
}%
}
\else
\newcommand*{\@gls@automake@immediate}[1]{%
\ifglossaryexists{#1}
{%
\IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
{%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-l }}%
{\let\@gls@order\@empty}%
\edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{makeindex \@gls@order
-s \istfilename\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{\GlossariesWarning{Can't make glossary '#1', it doesn't exist}}%
}%
}
}

```

```

\fi
\newcommand*{\@warn@nomakeglossaries}{}
\newcommand*{\warn@nomakeglossaries}{\@warn@nomakeglossaries}
\newcommand{\@gls@automake@immediate}{%
\ifnum\gls@automake@nr=2\relax
\@for\@gls@type:=\@glo@types\do{%
\ifdefempty{\@gls@type}{}%
{\@gls@automake@immediate{\@gls@type}}%
}%
\glsautomakefalse
\renewcommand*{\@gls@doautomake}{}%
\fi
}
\newcommand*{\makeglossaries}{%
\@domakeglossaries
{%
\@gls@@automake@immediate
\ifundef{\glswrite}{\newwrite\glswrite}{}%
\protected@write\@auxout{}{\string\providecommand\string\@glsorder[1]{} }
\protected@write\@auxout{}{\string\providecommand\string\@istfilename[1]{} }
\ifundef\@@gls@extramakeindexopts
{}%
{%
\protected@write\@auxout{}{\string\providecommand
\string\@gls@extramakeindexopts[1]{} }
\protected@write\@auxout{}{\string\@gls@extramakeindexopts
{\@@gls@extramakeindexopts}}%
}%
\protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{}{\string\@glsorder{\glsorder}}
\@for\@glo@type:=\@glo@types\do{%
\ifthenelse{\equal{\@glo@type}{} }{}{}%
\@makeglossary{\@glo@type}}%
}%
\renewcommand*\newglossary[4] []{%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%
\let\@makeglossary\@gobble
\let\makeglossaries\relax
\@disable@onlypremakeg
\let\gls@checkseeallowed\relax
\let\warn@nomakeglossaries\relax
\def\warn@noprintglossary{%
\ifdefstring{\@glo@types}{,}%
{%
\GlossariesWarningNoLine{No glossaries have been defined}%
}%
}%

```

```

\GlossariesWarningNoLine{No \string\printglossary\space
or \string\printglossaries\space
found. ^^J(Remove \string\makeglossaries\space if you
don't want any glossaries.) ^^JThis document will not
have a glossary}%
}%
}%
\ifglssavenumberlist
\edef\@gls@dodolistparser{\noexpand\DeclareListParser
{\noexpand\glsnumlistparser}{\delimN}}%
\@gls@dodolistparser
\fi
\let\makenoidxglossaries\@no@makeglossaries
\renewcommand*{\@printgloss@setsort}{%
\let\@glo@assign@sortkey\@glo@no@assign@sortkey
}%
\ifglsautomake
\renewcommand*{\@gls@doautomake}{%
\for\@gls@type:=\@glo@types\do{%
\ifdefempty{\@gls@type}{%
{\@gls@automake{\@gls@type}}%
}%
}%
\fi
\@glo@check@sortallowed\makeglossaries
}%
}
\@onlypreamble{\makeglossaries}
\AtEndDocument{%
\warn@nomakeglossaries
\warn@noprintglossary
}
\newcommand*{\makenoidxglossaries}{%
\@domakeglossaries
{%
\renewcommand{\@gls@nofwarn}[1]{%
\GlossariesWarning{Empty glossary for
\string\printnoidxglossary[type={##1}].
Rerun may be required (or you may have forgotten to use
commands like \string\gls)}%
}%
\let\@gls@checkmkidxchars\@gobble
\glsesclocationsfalse
\let\@do@wrglossary\gls@noidxglossary
\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle
\let\gls@checkseeallowed\relax
\renewcommand{\@do@seeglossary}[2]{%
\edef\@gls@label{\glsdetoklabel{##1}}%
\protected@write\@auxout{}{%
\string\@gls@reference

```

```

 {\csname glo@\@gls@label @type\endcsname}%
 {\@gls@label}%
 {%
 \string\glsseeformat##2{}}%
 }%
 }%
}%
\AtBeginDocument
{%
 \write\@auxout{\string\providecommand\string\@gls@reference[3]{}}%
}%
\def\warn@noprintglossary{%
 \GlossariesWarningNoLine{No \string\printnoidxglossary\space
or \string\printnoidxglossaries ^^J
found. (Remove \string\makenoidxglossaries\space if you
don't want any glossaries.)^^JThis document will not have a glossary}%
}%
\let\warn@nomakeglossaries\relax
\let\makeglossaries\@no@makeglossaries
\renewcommand*{\@printgloss@setsort}{%
 \let\@glo@assign@sortkey\@glo@assign@sortkey
 \def\@glo@sorttype{\@glo@default@sorttype}%
}%
\renewcommand*\new@glossaryentry[2]{%
 \PackageError{glossaries}{Glossary entries must be
defined in the preamble^^Jwhen you use
\string\makenoidxglossaries}%
{Either move your definitions to the preamble or use
\string\makeglossaries}%
}%
\renewcommand*{\glsentrynumberlist}[1]{%
 \letcs{\@gls@loclist}{glo@\glsdetoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \glsnoidxloclist{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for '##1'. Either
a rerun is required or you haven't referenced the entry}%
 }%
 }%
}%
\renewcommand*{\glsdisplaynumberlist}[1]{%
 \letcs{\@gls@loclist}{glo@\glsdetoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%

```

```

 \def\@gls@noidxloclist@sep{%
 \glsnumlistsep
 }%
 \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
 }%
}%
\def\@gls@noidxloclist@finalsep{}%
\def\@gls@noidxloclist@prev{}%
\forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
\@gls@noidxloclist@finalsep
\@gls@noidxloclist@prev
}%
{%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
}%
}%
\renewcommand*{\glsnumberlistloop}[3]{%
 \letcs{\@gls@loclist}{glo\@glsdetoklabel{##1}@loclist}%
 \let\@gls@org@glsnoidxdisplayloc@glsnoidxdisplayloc
 \let\@gls@org@glsseeformat@glsseeformat
 \let\glsnoidxdisplayloc##2\relax
 \let\glsseeformat##3\relax
 \ifdef\@gls@loclist
 {%
 \forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
 }%
 \let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
 \let\glsseeformat\@gls@org@glsseeformat
}%
\let\@gls@sanitizesort\@gls@noidx@sanitizesort
\let\@gls@nosanitizesort\@gls@noidx@nosanitizesort
\@gls@noidx@setsanitizesort
\@glo@check@sortallowed\makenoidxglossaries
}%
}
\@onlypreamble{\makenoidxglossaries}
\newcommand*{\glsnumberlistloop}[2]{%
 \PackageError{glossaries}{\string\glsnumberlistloop\space
 only works with \string\makenoidxglossaries}{}%
}

```

```

}
\newcommand*\glsnoidxnumberlistloophandler}[1]{%
 #1%
}
\newcommand*\@no@makeglossaries{%
 \PackageError{glossaries}{You can't use both
 \string\makeglossaries\space and \string\makenoidxglossaries}%
 {Either use one or other (or none) of those commands but not both
 together.}%
}
\newcommand{\@gls@noref@warn}[1]{%
 \GlossariesWarning{\string\makenoidxglossaries\space
 is required to make \string\printnoidxglossary[type={#1}] work}%
}
\newcommand*\@gls@noidxglossary{%
 \protected@write\@auxout{%
 \string\@gls@reference
 {\csname glo@\@gls@label @type\endcsname}%
 {\@gls@label}%
 {\string\glsnoidxdisplayloc
 {\@glo@counterprefix}%
 {\@gls@counter}%
 {\@glsnumberformat}%
 {\@glslocref}%
 }%
 }%
}
}
\providecommand\istfile{\glswrite}
\AtEndDocument{%
 \glswritefiles
}
\newcommand*\@gls@writefiles{%
 \forallglossaries{\@glo@type}{%
 \ifcsundef{glo@\@glo@type @filetok}%
 {%
 \def\gls@tmp{%
 }%
 }%
 {\def\gls@tmp{\expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 }%
 \ifx\gls@tmp\@empty
 \ifx\@glo@type\glsdefaulttype
 \GlossariesWarningNoLine{Glossary '@@glo@type' has no
 entries.^^JRemember to use package option 'nomain' if
you
 don't want to^^Juse the main glossary}%
 \else
 \GlossariesWarningNoLine{Glossary '@@glo@type' has no
 entries}%
 \fi
 }%
 }%
}

```

```

 \fi
 \else
 \@glsopenfile{\glswrite}{\@glo@type}%
 \immediate\write\glswrite{%
 \expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 \immediate\closeout\glswrite
 \fi
}%
}
\newcommand*\@gls@glossary}[1]{%
 \@gls@glossary{#1}%
}
\newcommand*\@gls@glossary}[2]{%
 \if@gls@debug
 \PackageInfo{glossaries}{wrglossary(#1)(#2)}%
 \fi
}
\newcommand*\@gls@renewglossary{%
 \gdef\@gls@glossary##1{\@bsphack\begin@group\gls@wrglossary{##1}}%
 \let\@gls@renewglossary\@empty
}
\newcommand*\@gls@wrglossary}[2]{%
 \ifgls@savewrites
 \protected@edef\@gls@tmp{\the\csname glo@#1@filetok\endcsname#2}%
 \expandafter\global\expandafter\csname glo@#1@filetok\endcsname
 \expandafter{\@gls@tmp~J}%
 \else
 \ifcsdef{glo@#1@file}%
 {%
 \expandafter\protected@write\csname glo@#1@file\endcsname{%
 \gls@disablepagerefexpansion}{#2}%
 }%
 {%
 \ifignoredglossary{#1}{}%
 {%
 \GlossariesWarning{No file defined for glossary ‘#1’}%
 }%
 }%
 \fi
 \endgroup\@esphack
}
\newcommand*\@do@wrglossary}[1]{%
 \glswriteentry{#1}{\@do@wrglossary{#1}}%
}
\newcommand*\@gls@writeentry}[2]{%
 \ifgls@indexonlyfirst
 \ifglsused{#1}{-}{#2}%
 \else
 #2%
 \fi
}

```



```

\fi
}
\newcommand{\gls@protected@pagefmts}{\gls@numberpage,\gls@alphpage,%
\gls@Alphpage,\gls@romanpage,\gls@Romanpage,\gls@arabicpage}
\newcommand*{\gls@disablepagerefexpansion}{%
\@for\@gls@this:=\gls@protected@pagefmts\do
{%
\expandafter\let\@gls@this\relax
}%
}
\newcommand*{\gls@alphpage}{\@alph\c@page}
\newcommand*{\gls@Alphpage}{\@Alph\c@page}
\newcommand*{\gls@numberpage}{\number\c@page}
\newcommand*{\gls@arabicpage}{\@arabic\c@page}
\newcommand*{\gls@romanpage}{\romannumeral\c@page}
\newcommand*{\gls@Romanpage}{\@Roman\c@page}
\newcommand*{\glsaddprotectedpagefmt}[1]{%
\ea\pt\o\gls@protected@pagefmts{\,\expandonce{\csname gls#1page\endcsname}}%
\csedef{gls#1page}{\expandonce{\csname#1\endcsname}\noexpand\c@page}%
\ea\pt\o\@wrglossarynumberhook{%
\noexpand\let\expandonce{\csname org@gls#1\endcsname}%
\expandonce{\csname#1\endcsname}%
\noexpand\def\expandonce{\csname#1\endcsname}{%
\noexpand\@wrglossary@pageformat
\expandonce{\csname gls#1page\endcsname}%
\expandonce{\csname org@gls#1\endcsname}%
}%
}%
}
\newcommand*\@wrglossarynumberhook{}
\newcommand{\@wrglossary@pageformat}[3]{%
\ifx#3\c@page #1\else #2#3\fi
}
\newcommand*{\@do@wrglossary}[1]{%
\ifglseclocations
\@do@esc@wrglossary{#1}%
\else
\@do@noesc@wrglossary{#1}%
\fi
}
\newcommand*{\@do@noesc@wrglossary}[1]{%
\expandafter\def\expandafter\@glslocref\expandafter{\theglentrycounter}%
\expandafter\def\expandafter\@glsHlocref\expandafter{\theHglentrycounter}%
\ifx\@glsHlocref\@glslocref
\def\@glo@counterprefix{}%
\else
\protected@edef\@do@gls@getcounterprefix{\noexpand\@gls@getcounterprefix
{\@glslocref}{\@glsHlocref}%
}%
\@do@gls@getcounterprefix

```

```

\fi
\edef\@gls@label{\glsdetoklabel{#1}}%
\@do@wrglossary
}
\newif\ifglswrallowprimitivemods
\glswrallowprimitivemodstrue
\newcommand*{\@do@esc@wrglossary}[1]{% please read documented code!
\begingroup
\let\gls@orgthe\the
\let\gls@orgnumber\number
\let\gls@orgarabic\@arabic
\let\gls@orgromannumeral\romannumeral
\let\gls@orgalph\@alph
\let\gls@orgAlph\@Alph
\let\gls@orgRoman\@Roman
\ifglswrallowprimitivemods
\def\gls@the##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgthe##1\fi}%
\def\the{\expandafter\gls@the}%
\def\gls@number##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgnumber##1\fi}%
\def\number{\expandafter\gls@number}%
\fi
\def\@arabic##1{%
\ifx##1\c@page \gls@arabicpage\else\gls@orgarabic##1\fi}%
\def\romannumeral##1{%
\ifx##1\c@page \gls@romanpage\else\gls@orgromannumeral##1\fi}%
\def\@Roman##1{%
\ifx##1\c@page \gls@Romanpage\else\gls@orgRoman##1\fi}%
\def\@alph##1{%
\ifx##1\c@page \gls@alphpage\else\gls@orgalph##1\fi}%
\def\@Alph##1{%
\ifx##1\c@page \gls@Alphpage\else\gls@orgAlph##1\fi}%
\@wrglossarynumberhook
\gls@disablepagerefexpansion
\protected@xdef\@gls@locref{\thegl@entrycounter}%
\endgroup
\@gls@checkmkidxchars\@gls@locref
\expandafter\ifx\theHgl@entrycounter\thegl@entrycounter\relax
\def\@glo@counterprefix{%
\else
\protected@edef\@gls@Hlocref{\theHgl@entrycounter}%
\@gls@checkmkidxchars\@gls@Hlocref
\edef\@do@gls@getcounterprefix{\noexpand\@gls@getcounterprefix
{\@gls@locref}{\@gls@Hlocref}%
}%
\@do@gls@getcounterprefix
\fi
\edef\@gls@label{\glsdetoklabel{#1}}%
\@do@wrglossary

```

```

}
\newcommand*{\@do@wrglossary}{%
 \ifglxindy
 \expandafter\@glo@check@mkidxrangear\@glsnumberformat\@nil
 \def\@glo@range{}%
 \expandafter\if\@glo@prefix(\relax
 \def\@glo@range{:open-range}%
 \else
 \expandafter\if\@glo@prefix)\relax
 \def\@glo@range{:close-range}%
 \fi
 \fi
 \gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
 (indexentry :tkey (\csname glo@\@gls@label @index\endcsname)
 :locref \string{\@glo@counterprefix}{\@glslocref}\string" %
 :attr \string"\@gls@counter\@glo@suffix\string"
 \@glo@range
)
 }%
\else
 \set@glo@numformat{\@glo@numfmt}{\@gls@counter}{\@glsnumberformat}%
 {\@glo@counterprefix}%
 \gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
 \string@glossaryentry{\csname glo@\@gls@label @index\endcsname
 \@gls@encapchar\@glo@numfmt}{\@glslocref}}%
 \fi
}
\newcommand*\@gls@getcounterprefix[2]{%
 \edef\@gls@thisloc{#1}\edef\@gls@thisHloc{#2}%
 \ifx\@gls@thisloc\@gls@thisHloc
 \def\@glo@counterprefix{}%
 \else
 \def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
 \def\@glo@tmp{##2}%
 \ifx\@glo@tmp\@empty
 \def\@glo@counterprefix{}%
 \else
 \def\@glo@counterprefix{##1}%
 \fi
 }%
 \@gls@get@counterprefix#2.#1\end@getprefix
 \ifx\@glo@counterprefix\@empty
 \GlossariesWarning{Hyper target '#2' can't be formed by
 prefixing location '#1'. You need to modify the
 definition of \string\theH\@gls@counter. Otherwise you
 will get the warning: "'name{\@gls@counter.#1}' has been
 referenced but does not exist"}%
 \fi
\fi
}

```

```

\newcommand{\@do@seeglossary}[2]{%
\def\@gls@xref{#2}%
\@onelevel@sanitize\@gls@xref
\@gls@checkmkidxchars\@gls@xref
\ifglsxindy
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 (indexentry
 :tkey (\csname glo@#1@index\endcsname)
 :xref (\string"\@gls@xref\string")
 :attr \string"see\string"
)
 }%
\else
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 \string\glossaryentry{\csname glo@#1@index\endcsname
 \@gls@encapchar glsseeformat\@gls@xref}{Z}}%
\fi
}
\def\@gls@fixbraces#1#2#3\@nil{%
 \ifx#2[\relax
 \@@gls@fixbraces#1#2#3\@end@fixbraces
 \else
 \def#1{#{#2#3}}%
 \fi
}
\def\@@gls@fixbraces#1[#2]#3\@end@fixbraces{%
 \def#1{[#2]{#3}}%
}
\newrobustcmd*{\glssee}[3][\seename]{%
 \@do@seeglossary{#2}{[#1]{#3}}
\newcommand*{\@glssee}[3][\seename]{%
 \glssee[#1]{#3}{#2}}
\newrobustcmd*{\glsseeformat}[3][\seename]{%
 \emph{#1} \glsseeitem{#2}}
\newrobustcmd*{\glsseelist}[1]{%
 \let\@gls@dolast\relax
 \let\@gls@donext\relax
 \@for\@gls@thislabel:=#1\do{%
 \ifx\@xfor@nextelement\@nnil
 \@gls@dolast
 \else
 \@gls@donext
 \fi
 \expandafter\glsseeitem\expandafter{\@gls@thislabel}%
 \let\@gls@dolast\glsseelastsep
 \let\@gls@donext\glsseesep
 }%
}
\newcommand*{\glsseelastsep}{\space\andname\space}
\newcommand*{\glsseesep}{, }

```

```

\newrobustcmd*{\glsseeitem}[1]{\gls hyperlink[\glsseeitemformat{#1}]{#1}}
\newcommand*{\glsseeitemformat}[1]{\glsentrytext{#1}}
\newcommand*{\gls@save@numberlist}[1]{%
 \ifgls@save@numberlist
 \toks@{#1}%
 \edef\@do@writeaux@info{%
 \noexpand\csgdef{glo@\gls@current@entry@label @numberlist}{\the\toks@}%
 }%
 \@onelevel@sanitize\@do@writeaux@info
 \protected@write\@auxout{}{\@do@writeaux@info}%
 \fi
}
\newcommand*{\warn@noprntglossary}{}%
\ifcsundef{printglossary}{}%
{
 \@gls@warnonglossdefined
 \undef\printglossary
}
\newcommand*{\@printgloss@checkexists@noignored}[2]{%
 \ifglossaryexists{#1}%
 {#2}%
 {%
 \ifignoredglossary{#1}%
 {\GlossariesWarning{Glossary ‘#1’ is an ignored glossary}}%
 {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
 }%
}
\newcommand*{\@printgloss@checkexists@allowignored}[2]{%
 \s@ifglossaryexists{#1}%
 {#2}%
 {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
}
\let\@printgloss@checkexists\@printgloss@checkexists@noignored
\newcommand*{\printglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@glossary}%
}
\newcommand*{\printglossaries}{%
 \forall@glossaries{\@glo@type}{\printglossary[type=\@glo@type]}%
}
\newcommand*{\printnoidxglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@noidx@glossary}%
}
\newcommand*{\printnoidxglossaries}{%
 \forall@glossaries{\@glo@type}{\printnoidxglossary[type=\@glo@type]}%
}
\newcommand*{\@printgloss@setsort}{%
}
\newcommand*{\@gls@preglossaryhook}{%
}
\newcommand{\@printglossary}[2]{%

```

```

\def@glo@type{glsdefaulttype}%
\def@glossarytitle{\csname @glo@type @title\endcsname}%
\def@glossarytoctitle{glossarytitle}%
\let\org@glossarytitle@glossarytitle
\def@glossarystyle{%
 \ifx@glossary@default@style\relax
 \GlossariesWarning{No default glossary style provided \MessageBreak
 for the glossary '@glo@type'. \MessageBreak
 Using deprecated fallback. \MessageBreak
 To fix this set the style with \MessageBreak
 \string\setglossarystyle\space or use the \MessageBreak
 style key=value option}%
 \fi
}%
\def@gls@dotoc@title{glssettoctitle{@glo@type}}%
\let@org@glossaryentrynumbers@glossaryentrynumbers
\bgroup
 \@printgloss@setsort
 \setkeys{printgloss}{#1}%
 \@printgloss@checkexists{@glo@type}%
 {%
 \ifx@glossarytitle\org@glossarytitle
 \else
 \expandafter\let\csname @glo@type @title\endcsname
 \glossarytitle
 \fi
 \let\currentglossary@glo@type
 \let\org@glossaryentrynumbers@glossaryentrynumbers
 \let\glsnonextpages@glsnonextpages
 \let\glsnextpages@glsnextpages
 \let\nopostdesc@nopostdesc
 \gls@dotoc@title
 \@glossarystyle
 \let\gls@org@glossaryentryfield@glossentry
 \let\gls@org@glossarysubentryfield\subglossentry
 \renewcommand{\glossentry}[1]{%
 \xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
 \gls@org@glossaryentryfield{##1}%
 }%
 \renewcommand{\subglossentry}[2]{%
 \xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
 \gls@org@glossarysubentryfield{##1}{##2}%
 }%
 \@gls@preglossaryhook
 #2%
 }%
\egroup
\global\let@glossaryentrynumbers@org@glossaryentrynumbers
\global\let\warn@noprintglossary\relax
}

```

```

\newcommand{\@print@glossary}{%
 \makeatletter
 \@input@{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
 \IfFileExists{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
 {}%
 {\null}%
 \ifglxsindy
 \ifcsundef{@xdy@\@glo@type @language}%
 {%
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@xdylanguage[2]{}%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@xdylanguage{\@glo@type}{\@xdy@main@language}%
 }%
 }%
 }%
 }%
 {%
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@xdylanguage[2]{}%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@xdylanguage{\@glo@type}{\csname @xdy@\@glo@type
 @language\endcsname}%
 }%
 }%
 }%
 }%
 \do@auxoutstuff
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@gls@codepage[2]{}%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@gls@codepage{\@glo@type}{\@gls@codepage}%
 }%
 }%
 }%
 \do@auxoutstuff
\fi
\renewcommand*{\@warn@nomakeglossaries}{%
 \GlossariesWarningNoLine{\string\makeglossaries\space
 hasn't been used,^^Jthe glossaries will not be updated}%
}%
}
\newcommand*{\@glo@sortentries}[2]{%
 \glosortentrieswarning
 \def\@glo@sortinglist{}%
 \def\@glo@sortinghandler{#1}%
 \edef\@glo@type{#2}%

```

```

\forlistcsloop{\@glo@do@sortentries}{@glsref@#2}%
\csdef{@glsref@#2}{}%
\@for\@this@label:=\@glo@sortinglist\do{%
 \xifinlistcs{\@this@label}{@glsref@#2}%
 {%
 \listcsxadd{@glsref@#2}{\@this@label}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@label}%
 {%
 \@glo@addchildren{#2}{\@this@label}%
 }%
 }%
}%
}
\newcommand*{\@glo@addchildren}[2]{%
 \bgroup
 \letcs{\@glo@childlist}{@glo@sortingchildren@#2}%
 \@for\@this@childlabel:=\@glo@childlist\do
 {%
 \xifinlistcs{\@this@childlabel}{@glsref@#1}%
 {%
 \listcsxadd{@glsref@#1}{\@this@childlabel}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@childlabel}%
 {%
 \@glo@addchildren{#1}{\@this@childlabel}%
 }%
 }%
 }%
 \egroup
}
\newcommand*{\@glo@do@sortentries}[1]{%
 \ifglshasparent{#1}%
 {%
 \edef\@glo@parent{\csuse{glo@\glsdetoklabel{#1}@parent}}%
 \ifcsundef{@glo@sortingchildren@\@glo@parent}%
 {%
 \csdef{@glo@sortingchildren@\@glo@parent}{}%
 }%
 }%
 \expandafter\@glo@sortedinsert
 \csname @glo@sortingchildren@\@glo@parent\endcsname{#1}%
 \xifinlistcs{\@glo@parent}{@glsref@\@glo@type}%
 {%
 }%
 }%
 \expandafter\@glo@do@sortentries\expandafter{\@glo@parent}%
}

```



```

 }%
 }%
 {%
 \@glo@sortedinsert{\@glo@sortinglist}{#1}%
 }%
}
\newcommand*{\@glo@sortedinsert}[2]{%
 \dtl@insertinto{#2}{#1}{\@glo@sortinghandler}%
}%
\newcommand*{\@glo@sorthandler@word}[2]{%
 \letcs\@gls@sort@A{glo@glstdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@glstdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlwordindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@letter}[2]{%
 \letcs\@gls@sort@A{glo@glstdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@glstdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlletterindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@case}[2]{%
 \letcs\@gls@sort@A{glo@glstdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@glstdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@nocase}[2]{%
 \letcs\@gls@sort@A{glo@glstdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@glstdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlicompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sortmacro@word}[1]{%

```

```

\ifdefstring{\@glo@default@sorttype}{standard}%
{%
 \@glo@sortentries{\@glo@sorthandler@word}{#1}%
}%
{%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=word]}{}}%
}%
}
\newcommand*\@glo@sortmacro@letter}[1]{%
\ifdefstring{\@glo@default@sorttype}{standard}%
{%
 \@glo@sortentries{\@glo@sorthandler@letter}{#1}%
}%
{%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=letter]}{}}%
}%
}
\newcommand*\@glo@sortmacro@standard}[1]{%
\ifdefstring{\@glo@default@sorttype}{standard}%
{%
 \ifcsdef{\@glo@sorthandler@\glsorder}%
 {%
 \@glo@sortentries{\csuse{\@glo@sorthandler@\glsorder}}{#1}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\glsorder’}{}}%
 }%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=standard]}{}}%
}%
}
\newcommand*\@glo@sortmacro@case}[1]{%
\ifdefstring{\@glo@default@sorttype}{standard}%
{%
 \@glo@sortentries{\@glo@sorthandler@case}{#1}%
}%
{%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=case]}{}}%
}%
}
\newcommand*\@glo@sortmacro@nocase}[1]{%

```

```

\ifdefstring{\@glo@default@sorttype}{standard}%
{%
 \@glo@sortentries{\@glo@sorthandler@nocase}{#1}%
}%
{%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=nocase]}{ }%
}%
}
\newcommand*{\@glo@sortmacro@def}[1]{%
 \def\@glo@sortinglist{%
 \forlscsentries[#1]{\@gls@thislabel}%
 {%
 \xifinlistcs{\@gls@thislabel}{\@glsref@#1}%
 {%
 \listcsadd{\@glo@sortinglist}{\@gls@thislabel}%
 }%
 {%
 }%
 }%
 }%
 \cslet{\@glsref@#1}{\@glo@sortinglist}%
}
\newcommand*{\@glo@sortmacro@def@do}[1]{%
 \ifinlistcs{#1}{\@glsref@\@glo@type}%
 {}%
 {%
 \listcsadd{\@glsref@\@glo@type}{#1}%
 }%
 \ifcsdef{\@glo@sortingchildren@#1}%
 {%
 \@glo@addchildren{\@glo@type}{#1}%
 }%
 {}%
}
\newcommand*{\@glo@sortmacro@use}[1]{%
\newcommand*{\@print@noidx@glossary}{%
 \ifcsdef{\@glsref@\@glo@type}%
 {%
 \ifcsdef{\@glo@sortmacro@\@glo@sorttype}%
 {%
 \csuse{\@glo@sortmacro@\@glo@sorttype}{\@glo@type}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\@glo@sorttype’}{ }%
 }%
 }%
 \glossarysection[\@glossarytoctitle]{\@glossarytitle}%
 \glossarypreamble
 \def\@gls@currentlettergroup{}%
 \begin{theglossary}%

```

```

\glossaryheader
\glsresetentrylist
\forlistcsloop{\@gls@noidx@do}{@glsref@{@glo@type}}%
\end{theglossary}%
\glossarypostamble
}%
{%
\@gls@noref@warn{\@glo@type}%
}%
}
\def\glo@grabfirst#1#2\@nil{%
\def\@gls@firsttok{#1}%
\ifdefempty\@gls@firsttok
{%
\def\@glo@thislettergrp{0}%
}%
{%
\@onelevel@sanitize\@gls@firsttok
\expandafter\@glo@grabfirst\@gls@firsttok{}}\@nil
}%
}
\def\@glo@grabfirst#1#2\@nil{%
\ifdefempty\@glo@thislettergrp
{%
\def\@glo@thislettergrp{glssymbols}%
}%
{%
\count@=\ucode‘#1\relax
\ifnum\count@=0\relax
\def\@glo@thislettergrp{glssymbols}%
\else
\ifdefstring\@glo@sorttype{case}%
{%
\count@=‘#1\relax
}%
{%
}%
}%
\edef\@glo@thislettergrp{\the\count@}%
\fi
}%
}
\newcommand{\@gls@noidx@do}[1]{%
\global\letcs{\@gls@loclist}{glo@glstdetoklabel{#1}@loclist}%
\ifglshasparent{#1}%
{%
\gls@level=\csuse{glo@glstdetoklabel{#1}@level}\relax
\ifdefvoid{\@gls@loclist}
{%
\subglossentry{\gls@level}{#1}{}%
}%
}
}

```

```

 {%
 \subglossentry{\gls@level}{#1}%
 {%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
 }%
 }%
 {%
 \letcs{\@gls@sort}{glo@\glsdetoklabel{#1}@sort}%
 \expandafter\glo@grabfirst\@gls@sort{}{}\@nil
 \ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
 {%
 \ifdefempty{\@gls@currentlettergroup}{}%
 {%
 \global\let\@glo@thislettergrp\@glo@thislettergrp
 \glsgroupskip
 }%
 \glsgroupheading{\@glo@thislettergrp}%
 }%
 \global\let\@gls@currentlettergroup\@glo@thislettergrp
 \ifdefvoid{\@gls@loclist}
 {%
 \glossentry{#1}{}%
 }%
 {%
 \glossentry{#1}%
 {%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
 }%
 }%
}
}
\newcommand*{\glsnoidxloclist}[1]{%
 \def\@gls@noidxloclist@sep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxloclisthandler}{#1}%
}
\newcommand*{\glsnoidxloclisthandler}[1]{%
 \ifdefstring{\@gls@noidxloclist@prev}{#1}%
 {%
 }%
 {%
 \@gls@noidxloclist@sep
 #1%
 \def\@gls@noidxloclist@sep{\delimN}%
 \def\@gls@noidxloclist@prev{#1}%
 }%
}
\newcommand*{\glsnoidxdisplayloclisthandler}[1]{%

```

```

\ifdefstring{\@gls@noidxloclist@prev}{#1}%
{%
}%
{%
 \@gls@noidxloclist@sep
 \@gls@noidxloclist@prev
 \def\@gls@noidxloclist@prev{#1}%
}%
}
\newcommand*\glsnoidxdisplayloc[4]{%
 \setentrycounter[#1]{#2}%
 \csuse{#3}{#4}%
}
\newcommand*\@gls@reference}[3]{%
 \glsdoifexistsorwarn{#2}%
 {%
 \ifcsundef{\@glsref@#1}{\csgdef{\@glsref@#1}{}}{}%
 \ifinlistcs{#2}{\@glsref@#1}%
 {}%
 {\listcsgadd{\@glsref@#1}{#2}}%
 \ifcsundef{glo@glstdetoklabel{#2}@loclist}%
 {\csgdef{glo@glstdetoklabel{#2}@loclist}{}}%
 {}%
 \listcsgadd{glo@glstdetoklabel{#2}@loclist}{#3}%
 }%
}
\define@key{printgloss}{type}{\def\@glo@type{#1}}
\define@key{printgloss}{title}{%
 \def\glossarytitle{#1}%
 \let\gls@dotocitle\relax
}
\define@key{printgloss}{toctitle}{%
 \def\glossarytoctitle{#1}%
 \let\gls@dotocitle\relax
}
\define@key{printgloss}{style}{%
 \ifcsundef{\@glsstyle@#1}%
 {%
 \PackageError{glossaries}%
 {Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \def\@glossarystyle{\setglossentrycompatibility
 \csname @glsstyle@#1\endcsname}%
 }%
}
\define@choicekey{printgloss}{numberedsection}%
[\@gls@numberedsection@val\@gls@numberedsection@nr]%
{false,nolabel,autolabel,nameref}[nolabel]%
{}%

```

```

\ifcase\gls@numberedsection@nr\relax
 \renewcommand*{\@@glossarysecstar}{*}%
 \renewcommand*{\@@glossaryseclabel}{}%
\or
 \renewcommand*{\@@glossarysecstar}{}%
 \renewcommand*{\@@glossaryseclabel}{}%
\or
 \renewcommand*{\@@glossarysecstar}{}%
 \renewcommand*{\@@glossaryseclabel}{\label{\glsautoprefix\@glo@type}}%
\or
 \renewcommand*{\@@glossarysecstar}{*}%
 \renewcommand*{\@@glossaryseclabel}{%
 \protected@edef\@currentlabelname{\glossarytoctitle}%
 \label{\glsautoprefix\@glo@type}}%
\fi
}
\define@choicekey{printgloss}{nogroupskip}{true,false}[true]{%
 \csuse{glsnogroupskip#1}%
}
\define@choicekey{printgloss}{nopostdot}{true,false}[true]{%
 \csuse{glsnopostdot#1}%
}
\newcommand*{\GlsEntryCounterLabelPrefix}{glsentry-}
\define@choicekey{printgloss}{entrycounter}{true,false}[true]{%
 \csuse{glsentrycounter#1}%
 \@gls@define@glossaryentrycounter
}
\define@choicekey{printgloss}{subentrycounter}{true,false}[true]{%
 \csuse{glsesubentrycounter#1}%
 \@gls@define@glossarysubentrycounter
}
\define@boolkey{printgloss}[gls]{nonumberlist}[true]{%
\ifglsnonumberlist
 \def\glossaryentrynumbers##1{%
\else
 \def\glossaryentrynumbers##1{##1}%
\fi}
\define@key{printgloss}{sort}{\@glo@assign@sortkey{#1}}
\newcommand*{\@glo@no@assign@sortkey}[1]{%
 \PackageError{glossaries}{‘sort’ key not permitted with
 \string\printglossary}%
 {The ‘sort’ key may only be used with \string\printnoidxglossary}%
}
\newcommand*{\@glo@assign@sortkey}[1]{%
 \def\@glo@sorttype{#1}%
}
\newcommand*{\@glsnonextpages}{%
 \gdef\glossaryentrynumbers##1{%
 \glsresetentrylist
 }%

```

```

}
\newcommand*{\@glsnextpages}{%
 \gdef\glossaryentrynumbers##1{%
 ##1\glsresetentrylist}}
\newcommand*{\glsresetentrylist}{%
 \global\let\glossaryentrynumbers\org@glossaryentrynumbers}
\newcommand*{\glsnonextpages}{}
\newcommand*{\glsnextpages}{}
\@gls@define@glossaryentrycounter
\@gls@define@glossarysubentrycounter
\newcommand*{\glsresetsubentrycounter}{%
 \ifglssubentrycounter
 \setcounter{glossarysubentry}{0}%
 \fi
}
\newcommand*{\glsresetentrycounter}{%
 \ifglentrycounter
 \setcounter{glossaryentry}{0}%
 \fi
}
\newcommand*{\glsstepentry}[1]{%
 \ifglentrycounter
 \refstepcounter{glossaryentry}%
 \label{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \fi
}
\newcommand*{\glsstepsubentry}[1]{%
 \ifglssubentrycounter
 \edef\currentglssubentry{\glsdetoklabel{#1}}%
 \refstepcounter{glossarysubentry}%
 \label{\GlsEntryCounterLabelPrefix\currentglssubentry}%
 \fi
}
\newcommand*{\glsrefentry}[1]{%
 \ifglentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \ifglssubentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \gls{#1}%
 \fi
 \fi
}
\newcommand*{\glsentrycounterlabel}{%
 \ifglentrycounter
 \theglossaryentry.\space
 \fi
}
\newcommand*{\glssubentrycounterlabel}{%

```



```

\ifglssubentrycounter
 \theglossarysubentry)\space
\fi
}
\newcommand*\glssentryitem}[1]{%
 \ifglssentrycounter
 \glssstepentry{#1}\glssentrycounterlabel
 \else
 \glssresetsubentrycounter
 \fi
}
\newcommand*\glsssubentryitem}[1]{%
 \ifglsssubentrycounter
 \glssstepsubentry{#1}\glsssubentrycounterlabel
 \fi
}
\ifcsundef{theglossary}%
 {%
 \newenvironment{theglossary}{}{}%
 }%
 {%
 \@gls@warnontheglossdefined
 \renewenvironment{theglossary}{}{}%
 }
\newcommand*\glossaryheader{}
\newcommand*\glstarget}[2]{\@glstarget{\glo@linkprefix#1}{#2}}
\providecommand*\compatibleglossentry}[2]{%
 \toks@{#2}%
 \protected@edef\@do@glossentry{\noexpand\glossaryentryfield{#1}%
 {\noexpand\glsnamefont
 {\expandafter\expandonce\csname glo@#1@name\endcsname}}%
 {\expandafter\expandonce\csname glo@#1@desc\endcsname}%
 {\expandafter\expandonce\csname glo@#1@symbol\endcsname}%
 {\the\toks@}}%
 }%
 \@do@glossentry
}
\newcommand*\glossentryname}[1]{%
 \glssdoifexistsorwarn{#1}%
 {%
 \letcs{\glo@name}{glo@\glssdetoklabel{#1}@name}%
 \expandafter\glsnamefont\expandafter{\glo@name}%
 }%
}
\newcommand*\Glossentryname}[1]{%
 \glssdoifexistsorwarn{#1}%
 {%
 \glsnamefont{\Glsentryname{#1}}%
 }%
}
}

```

```

\newcommand*\glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrydesc{#1}%
 }%
}
\newcommand*\Glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrydesc{#1}%
 }%
}
\newcommand*\glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrysymbol{#1}%
 }%
}
\newcommand*\Glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrysymbol{#1}%
 }%
}
\providecommand*\compatiblesubglossentry}[3]{%
 \toks@{#3}%
 \protected@edef\@do@subglossentry{\noexpand\glossarysubentryfield{\number#1}%
 {#2}%
 {\noexpand\glsnamefont
 {\expandafter\expandonce\csname glo@#2@name\endcsname}}%
 {\expandafter\expandonce\csname glo@#2@desc\endcsname}%
 {\expandafter\expandonce\csname glo@#2@symbol\endcsname}%
 {\the\toks@}}%
 }%
 \@do@subglossentry
}
\newcommand*\setglossentrycompatibility){%
 \let\glossentry\compatibleglossentry
 \let\subglossentry\compatiblesubglossentry
}
\setglossentrycompatibility
\newcommand*\glossaryentryfield}[5]{%
 \GlossariesWarning
 {Deprecated use of \string\glossaryentryfield.^^J
 I recommend you change to \string\glossentry.^^J
 If you've just upgraded, try removing your gls auxiliary
 files^^J and recompile}%
 \noindent\textbf{\glstarget{#1}{#2}} #4 #3. #5\par}
\newcommand*\glossarysubentryfield}[6]{%
 \GlossariesWarning

```

```

{Deprecated use of \string\glossarysubentryfield.^^J
 I recommend you change to \string\subglossentry.^^J
 If you've just upgraded, try removing your gls auxiliary
 files^^J and recompile}%
\glstarget{#2}{\strut}#4. #6\par}
\newcommand*{\glsgroupskip}{}
\newcommand*{\glsgroupheading}[1]{}
\newcommand*{\glsgetgrouptitle}[1]{%
 \@gls@getgrouptitle{#1}{\@gls@grptitle}%
 \@gls@grptitle
}
\newcommand*{\@gls@getgrouptitle}[2]{%
 \dtl@ifsingle{#1}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
 {%
 \ifboolexpr{test{\ifstrequal{#1}{\glsymbols}}
 or test{\ifstrequal{#1}{\glsnumbers}}}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
 {%
 \def#2{#1}%
 }%
 }%
}
}
\newcommand*{\@gls@noidx@getgrouptitle}[2]{%
 \DTLifint{#1}%
 {\edef#2{\char#1\relax}}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
}
}
\newcommand*{\glsgetgrouplabel}[1]{%
 \ifthenelse{\equal{#1}{\glsymbolsgroupname}}{\glsymbols}{%
 \ifthenelse{\equal{#1}{\glsnumbersgroupname}}{\glsnumbers}{#1}}
\newcommand*{\setentrycounter}[2][[]]{%
 \def\@glo@counterprefix{#1}%
 \ifx\@glo@counterprefix\@empty
 \def\@glo@counterprefix{.}%
 \else
 \def\@glo@counterprefix{.#1}%
 \fi
 \def\glsentrycounter{#2}%
}
}
\newcommand*{\setglossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
}

```

```

}%
{%
 \csname @glsstyle@#1\endcsname
}%
\ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
\fi
}
\newcommand*\@glossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \GlossariesWarning
 {Deprecated command \string\glossarystyle.^^J
 I recommend you switch to \string\setglossarystyle\space unless
 you want to maintain backward compatibility}%
 \setglossentrycompatibility
 \csname @glsstyle@#1\endcsname
 \ifcsdef{@glscompstyle@#1}%
 {\setglossentrycompatibility\cuse{@glscompstyle@#1}}%
 {}%
 }%
 \ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
 \fi
}
\newcommand*\@newglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \expandafter\def\csname @glsstyle@#1\endcsname{#2}%
 }%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ is already defined}{}%
 }%
}
\newcommand*\@renewglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ isn’t already defined}{}%
 }%
 {%
 \csdef{@glsstyle@#1}{#2}%
 }%
}
\newcommand*\@glsnamefont}[1]{#1}
\ifcsundef{hyperlink}%
{%
 \def\glsnumber#1{#1}%

```

```

}%
{%
 \def\glsnumber#1{\@glsnumber#1\nohyperpage{}}\@nil}
}
\def\@glsnumber#1\@nohyperpage#2#3\@nil{%
 \ifx\#1\%
 \else
 \@delimR#1\delimR\delimR\%
 \fi
 \ifx\#2\%
 \else
 #2%
 \fi
 \ifx\#3\%
 \else
 \@glsnumber#3\@nil
 \fi
}
\def\@delimR#1\delimR #2\delimR #3\%
\ifx\#2\%
 \@delimN{#1}%
\else
 \@gls@numberlink{#1}\delimR\@gls@numberlink{#2}%
\fi}
\def\@delimN#1{\@delimN#1\delimN \delimN\}
\def\@delimN#1\delimN #2\delimN#3\%
\ifx\#3\%
 \@gls@numberlink{#1}%
\else
 \@gls@numberlink{#1}\delimN\@gls@numberlink{#2}%
\fi
}
\def\@gls@numberlink#1{%
\begingroup
\toks@={}%
\@gls@removespaces#1 \@nil
\endgroup}
\def\@gls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\%
 \edef\x{\the\toks@}%
 \ifx\x\empty
 \else
 \hyperlink{\glsentrycounter\@gls@counterprefix\the\toks@}%
 {\the\toks@}%
 \fi
\else
 \@gls@ReturnAfterFi{%
 \@gls@removespaces#2\@nil
 }%
}

```

```

\fi
}
\long\def\@gls@ReturnAfterFi#1\fi{\fi#1}
\newcommand*\hyperrm[1]{\textrm{\glsnumber{#1}}}
\newcommand*\hypersf[1]{\textsf{\glsnumber{#1}}}
\newcommand*\hypertt[1]{\texttt{\glsnumber{#1}}}
\newcommand*\hyperbf[1]{\textbf{\glsnumber{#1}}}
\newcommand*\hypermd[1]{\textmd{\glsnumber{#1}}}
\newcommand*\hyperit[1]{\textit{\glsnumber{#1}}}
\newcommand*\hypersl[1]{\textsl{\glsnumber{#1}}}
\newcommand*\hyperup[1]{\textup{\glsnumber{#1}}}
\newcommand*\hypersc[1]{\textsc{\glsnumber{#1}}}
\newcommand*\hyperemph[1]{\emph{\glsnumber{#1}}}
\newcommand{\oldacronym}[4][\gls@label]{%
 \def\gls@label{#2}%
 \newacronym[#4]{#1}{#2}{#3}%
 \ifcsundef{xspace}%
 {%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}}{\noexpand\gls{#1}}%
 }%
 }%
 }%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}\noexpand\xspace}{%
 \noexpand\gls{#1}\noexpand\xspace}%
 }%
 }%
}
\newcommand{\newacronym}[4][{}]{
\newcommand*\acrpluralsuffix{\glsacrpluralsuffix}
\newrobustcmd*\glsstextup[1]{\ifdef\textulc{\textulc{#1}}{\textup{#1}}}
\newcommand*\glsshortkey{short}
\newcommand*\glsshortpluralkey{shortplural}
\newcommand*\glslongkey{long}
\newcommand*\glslongpluralkey{longplural}
\newrobustcmd*\acrfull{\@gls@hyp@opt\ns@acrfull}
\newcommand*\ns@acrfull[2][{}]{%
 \new@ifnextchar[{\@acrfull{#1}{#2}}%
 {\@acrfull{#1}{#2} []}%
}
\def\@acrfull#1#2[#3]{%
 \acrfullfmt{#1}{#2}{#3}%
}
\newcommand*\acrfullfmt[3]{%
 \acrlinkfullformat{\@acrlong}{\@acrshort}{#1}{#2}{#3}%
}
\newcommand{\acrlinkfullformat}[5]{%
 \acrfullformat{#1}{#3}{#4}{#5}{#2}{#3}{#4} []}%
}

```

```

\newcommand{\acrfullformat}[2]{#1\glsspace(#2)}
\newrobustcmd{\glsspace}{\space}
\newrobustcmd*{\Acrfull}{\@gls@hyp@opt\ns@Acrfull}
\newcommand*\ns@Acrfull[2][]{%
 \new@ifnextchar[{\@Acrfull{#1}{#2}}{%
 {\@Acrfull{#1}{#2} []}%
 }
}
\def\@Acrfull#1#2[#3]{%
 \Acrfullfmt{#1}{#2}{#3}%
}
\newcommand*{\Acrfullfmt}[3]{%
 \acrlinkfullformat{\@Acrlong}{\@acrshort}{#1}{#2}{#3}%
}
\newrobustcmd*{\ACRfull}{\@gls@hyp@opt\ns@ACRfull}
\newcommand*\ns@ACRfull[2][]{%
 \new@ifnextchar[{\@ACRfull{#1}{#2}}{%
 {\@ACRfull{#1}{#2} []}%
 }
}
\def\@ACRfull#1#2[#3]{%
 \ACRfullfmt{#1}{#2}{#3}%
}
\newcommand*{\ACRfullfmt}[3]{%
 \acrlinkfullformat{\@ACRlong}{\@ACRshort}{#1}{#2}{#3}%
}
\newrobustcmd*{\acrfullpl}{\@gls@hyp@opt\ns@acrfullpl}
\newcommand*\ns@acrfullpl[2][]{%
 \new@ifnextchar[{\@acrfullpl{#1}{#2}}{%
 {\@acrfullpl{#1}{#2} []}%
 }
}
\def\@acrfullpl#1#2[#3]{%
 \acrfullplfmt{#1}{#2}{#3}%
}
\newcommand*{\acrfullplfmt}[3]{%
 \acrlinkfullformat{\@acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
}
\newrobustcmd*{\Acrfullpl}{\@gls@hyp@opt\ns@Acrfullpl}
\newcommand*\ns@Acrfullpl[2][]{%
 \new@ifnextchar[{\@Acrfullpl{#1}{#2}}{%
 {\@Acrfullpl{#1}{#2} []}%
 }
}
\def\@Acrfullpl#1#2[#3]{%
 \Acrfullplfmt{#1}{#2}{#3}%
}
\newcommand*{\Acrfullplfmt}[3]{%
 \acrlinkfullformat{\@Acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
}
\newrobustcmd*{\ACRfullpl}{\@gls@hyp@opt\ns@ACRfullpl}
\newcommand*\ns@ACRfullpl[2][]{%
 \new@ifnextchar[{\@ACRfullpl{#1}{#2}}{%
 {\@ACRfullpl{#1}{#2} []}%
 }
}

```

```

}
\def\ACRfullpl#1#2[#3]{%
 \ACRfullplfmt{#1}{#2}{#3}%
}
\newcommand*\ACRfullplfmt}[3]{%
 \acrlinkfullformat{\ACRlongpl}{\ACRshortpl}{#1}{#2}{#3}%
}
\newcommand{\acronymfont}[1]{#1}
\newcommand{\firstacronymfont}[1]{\acronymfont{#1}}
\newcommand*\acrnameformat}[2]{\acronymfont{#1}}
\newtoks\glskeylisttok
\newtoks\glslabeltok
\newtoks\glsshorttok
\newtoks\gslongtok
\newcommand*\newacronymhook{}
\newcommand*\SetGenericNewAcronym}{%
 \let\@Gls@entryname\@Gls@acentryname
 \renewcommand{\newacronym}[4][]{%
 \ifdefempty{\@glsacronymlists}%
 {%
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 }%
 }%
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \gslongtok{##4}%
 \newacronymhook
 \protected@edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\expandonce{\acronymentry{##2}}},%
 sort={\acronymsort{\the\glsshorttok}{\the\gslongtok}},%
 text={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\gslongtok},%
 longplural={\the\gslongtok\noexpand\acrpluralsuffix},%
 \GenericAcronymFields,%
 \the\glskeylisttok
 }%
 }%
 \@do@newglossaryentry
}%
\renewcommand*\acrfullfmt}[3]{%
 \glslink{##1}{##2}{\genacrfullformat{##2}{##3}}%
\renewcommand*\Acrfullfmt}[3]{%

```



```

\glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}%
\renewcommand*\ACRfullfmt}[3]{%
\glslink[##1]{##2}{%
\mfirstucMakeUppercase{\genacrfullformat{##2}{##3}}}%
\renewcommand*\acrfullplfmt}[3]{%
\glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}%
\renewcommand*\Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}%
\renewcommand*\ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\mfirstucMakeUppercase{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%
\renewcommand*\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
\newcommand*\GenericAcronymFields>{description={\the\glslongtok}}
\newcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\newcommand*\acronymsort}[2]{##1}
\newcommand*\setacronymstyle}[1]{%
\ifcsundef{@glsacr@dispstyle@##1}
{%
\PackageError{glossaries}{Undefined acronym style ‘##1’}{%
}%
}%
\ifdefempty{\@glsacronymlists}%
{%
\DeclareAcronymList{\acronymtype}%
}%
{}%
\SetGenericNewAcronym
\GlsUseAcrStyleDefs{##1}%
\@for\@gls@type:=\@glsacronymlists\do{%
\defglsentryfmt[\@gls@type]{\GlsUseAcrEntryDispStyle{##1}}%
}%
}%
}
\newcommand*\newacronymstyle}[3]{%
\ifcsdef{@glsacr@dispstyle@##1}%
{%
\PackageError{glossaries}{Acronym style ‘##1’ already exists}{%
}%
}%
\csdef{@glsacr@dispstyle@##1}{##2}%
\csdef{@glsacr@styledefs@##1}{##3}%
}%
}
\newcommand*\renewacronymstyle}[3]{%
\ifcsdef{@glsacr@dispstyle@##1}%
{%

```

```

\csdef{@glsacr@dispstyle@#1}{#2}%
\csdef{@glsacr@styledefs@#1}{#3}%
}%
{%
\PackageError{glossaries}{Acronym style ‘#1’ doesn’t exist}{}%
}%
}
\newcommand*{\GlsUseAcrEntryDispStyle}[1]{\csuse{@glsacr@dispstyle@#1}}
\newcommand*{\GlsUseAcrStyleDefs}[1]{\csuse{@glsacr@styledefs@#1}}
\newacronymstyle{long-short}%
{%
\ifglshaslong{\glslabel}{\glsacrfmt}{\glsacrfmt}}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\glsentrylong{##1}##2\space
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\Glsentrylong{##1}##2\space
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\glsentrylongpl{##1}##2\space
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\Glsentrylongpl{##1}##2\space
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\newacronymstyle{long-sp-short}%
{%
\ifglshaslong{\glslabel}{\glsacrfmt}{\glsacrfmt}}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\Glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}

```

```

}%
\renewcommand*\genplacrfullformat}[2]{%
 \glentrylongpl{##1}##2\glsacspace{##1}%
 (\protect\firstacronymfont{\glentryshortpl{##1}})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \Glsentrylongpl{##1}##2\glsacspace{##1}%
 (\protect\firstacronymfont{\glentryshortpl{##1}})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newcommand*\glsacspace}[1]{%
 \settowidth{\dimen@}{(\protect\firstacronymfont{\glentryshort{##1}})}%
 \ifdim\dimen@<3em~\else\space\fi
}
\newacronymstyle{short-long}%
{%
 \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\renewcommand*\genacrfullformat}[2]{%
 \protect\firstacronymfont{\glentryshort{##1}}##2\space
 (\glentrylong{##1})%
}%
\renewcommand*\Genacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshort{##1}}##2\space
 (\glentrylong{##1})%
}%
\renewcommand*\genplacrfullformat}[2]{%
 \protect\firstacronymfont{\glentryshortpl{##1}}##2\space
 (\glentrylongpl{##1})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2\space
 (\glentrylongpl{##1})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newacronymstyle{long-sc-short}%
{\GlsUseAcrEntryDispStyle{long-short}}%

```

```

}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{long-sm-short}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glacrpluralsuffix}%
}
\newacronymstyle{sc-short-long}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{sm-short-long}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glacrpluralsuffix}%
}
\newacronymstyle{long-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{long-sp-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sp-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sp-short}%
}

```

```

\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\glspacespace{##1}(\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{long-sc-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sc-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{long-sm-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sm-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{sc-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sc-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{sm-short-long-desc}%

```

```

{%
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sm-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{dua}%
{%
 \ifdefempty\glscustomtext
 {%
 \ifglshaslong{\glslabel}%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \glsentrylongpl{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylongpl{\glslabel}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\glsentrylongpl{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \glsentrylong{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylong{\glslabel}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\glsentrylong{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glsgenentryfmt
 }%
 {\glscustomtext\glsinsert}%
}%

```

```

{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\glsentrylong{##2}##3\space
 (\acronymfont{\glsentryshort{##2}})}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylong{##2}##3\space
 (\acronymfont{\glsentryshort{##2}})}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\glsentrylong{##2}##3\space
 (\acronymfont{\glsentryshort{##2}})}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\glsentryfull}[1]{%
 \glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Glsentryfull}[1]{%
 \Glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
 \glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \Glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{dua-desc}%
{%
 \GlsUseAcrEntryDispStyle{dua}%
}%
{%
 \GlsUseAcrStyleDefs{dua}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymentry}[1]{\acronymfont{\glsentrylong{##1}}}%
 \renewcommand*{\acronymsort}[2]{##2}%
}%
\newacronymstyle{footnote}%

```

```

{%
\ifglshaslong{\glslabel}{\glsгенacfmt}{\glsгенentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\glshyperfirstfalse
\renewcommand*{\genacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshort{##1}}##2%
\protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\firstacronymfont{\Glsentryshort{##1}}##2%
\protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshortpl{##1}}##2%
\protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\protect\firstacronymfont{\Glsentryshortpl{##1}}##2%
\protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
\renewcommand*{\acrfullfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\glsentryshort{##2}}##3\space
(\glsentrylong{##2})}%
\renewcommand*{\Acrfullfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\Glsentryshort{##2}}##3\space
(\glsentrylong{##2})}%
\renewcommand*{\ACRfullfmt}[3]{%
\glslink[##1]{##2}{%
\mfirstucMakeUppercase{\acronymfont{\glsentryshort{##2}}##3\space
(\glsentrylong{##2})}}}%
\renewcommand*{\acrfullplfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}%
\renewcommand*{\Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\acronymfont{\Glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}%
\renewcommand*{\ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\mfirstucMakeUppercase{\acronymfont{\glsentryshortpl{##2}}##3\space
(\glsentrylongpl{##2})}}}%
\renewcommand*{\glsentryfull}[1]{%
\acronymfont{\glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\Glsentryfull}[1]{%
\acronymfont{\Glsentryshort{##1}}\space(\glsentrylong{##1})}%

```



```

\renewcommand*\glentryfullpl}[1]{%
 \acronymfont{\glentryshortpl{##1}}\space(\glentrylongpl{##1})}%
\renewcommand*\Glsentryfullpl}[1]{%
 \acronymfont{\Glsentryshortpl{##1}}\space(\glentrylongpl{##1})}%
}
\newacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
}%
\newacronymstyle{footnote-sm}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
}%
\newacronymstyle{footnote-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{footnote-sc-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sc}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{footnote-sm-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sm}%
}

```

```

}%
{%
 \GlsUseAcrStyleDefs{footnote-sm}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newcommand*\DefineAcronymSynonyms{%
 \let\acs\acrshort
 \let\Acs\Acrshort
 \let\acsp\acrshortpl
 \let\Acp\Acrshortpl
 \let\acl\aclong
 \let\Acl\Aclong
 \let\aclp\aclongpl
 \let\Aclp\Aclongpl
 \let\acf\acrfull
 \let\Acf\Acrfull
 \let\acfp\acrfullpl
 \let\Acfp\Acrfullpl
 \let\ac\gls
 \let\Ac\Gls
 \let\acp\glspl
 \let\Acp\Glspl
}
\ifglsacrshortcuts
 \DefineAcronymSynonyms
\fi
\newcommand*\SetDefaultAcronymDisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsentryfmt}%
}
\newcommand*\DefaultNewAcronymDef{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 sort={\the\glsshorttok},%
 text={\the\glsshorttok},%
 first={\acrfullformat{\the\glslongtok}{\the\glsshorttok}},%
 plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 firstplural={\acrfullformat{\noexpand\expandonce\noexpand\@glo@longpl}%
 {\noexpand\expandonce\noexpand\@glo@shortpl}},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 description={\the\glslongtok},%
 descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 }
 }
}

```

```

 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\@do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*\@SetDefaultAcronymStyle{%
 \@for\@gls@type:=\@gls@acronymlists\do{%
 \@SetDefaultAcronymDisplayStyle{\@gls@type}%
 }%
\renewcommand\@newacronym[4][]{%
 \ifx\@gls@acronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \@SetDefaultAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \DefaultNewAcronymDef
}%
\renewcommand*\@acrpluralsuffix{\@gls@acrpluralsuffix}%
}
\newcommand*\@acrfootnote[3]{\@acrlinkfootnote{#1}{#2}{#3}}
\newcommand*\@acrlinkfootnote[3]{%
 \footnote{\@glslink[##1]{##2}{##3}}%
}
\newcommand*\@acrnohreffootnote[3]{%
 \footnote{#3}%
}
\newcommand*\@SetDescriptionFootnoteAcronymDisplayStyle[1]{%
 \def\glsentryfmt[##1]{%
 \ifdefempty\gls@customtext

```

```

{%
 \ifglused{\glslabel}%
 {%
 \acronymfont{\glsgenentryfmt}%
 }%
 {%
 \firstacronymfont{\glsgenentryfmt}%
 \ifglshassymbol{\glslabel}%
 {%
 \expandafter\protect\expandafter\acrfootnote\expandafter
 {\@gls@link@opts}{\@gls@link@label}%
 {%
 \glsifplural
 {\glsentrysymbolplural{\glslabel}}%
 {\glsentrysymbol{\glslabel}}%
 }%
 }%
 }%
 }%
 }%
 {\glscustomtext\glsinsert}%
}%
}
\newcommand*{\DescriptionFootnoteNewAcronymDef}{%
\edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\glsshorttok}},%
 sort={\the\glsshorttok},%
 first={\the\glsshorttok},%
 firstplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 text={\the\glsshorttok},%
 plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 symbol={\the\glslongtok},%
 symbolplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}

```

```

}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*\SetDescriptionFootnoteAcronymStyle{%
 \renewcommand{\newacronym}[4][{}]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDescriptionFootnoteAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \DescriptionFootnoteNewAcronymDef
 }%
 \@for\@gls@type:=\@glsacronymlists\do{%
 \SetDescriptionFootnoteAcronymDisplayStyle{\@gls@type}%
 }%
 \ifglsacrsmallcaps
 \renewcommand*\acronymfont[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
 \else
 \ifglsacrsmaller
 \renewcommand*\acronymfont[1]{\textsmaller{##1}}%
 \fi
 \fi
 \ifglsacrdua
 \PackageError{glossaries}{Option clash: ‘footnote’ and ‘dua’
 can’t both be set}{}%
 \fi
}%
\newcommand*\SetDescriptionDUAACronymDisplayStyle[1]{%
 \defglsentryfmt[##1]{\glsgenentryfmt}%
}
\newcommand*\DescriptionDUANewAcronymDef{%
 \edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=acronymtype,%
 name={\the\glslongtok},%
 sort={\the\glslongtok},

```

```

text={\the\glslongtok},%
first={\the\glslongtok},%
plural={\noexpand\expandonce\noexpand\@glo@longpl},%
firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
symbol={\the\glsshorttok},%
symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
\the\glskeylisttok
}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetDescriptionDUAAcronymStyle}{%
 \ifglsacrsmallcaps
 \PackageError{glossaries}{Option clash: ‘smallcaps’ and ‘dua’
 can’t both be set}{}%
 \else
 \ifglsacrsmaller
 \PackageError{glossaries}{Option clash: ‘smaller’ and ‘dua’
 can’t both be set}{}%
 \fi
 \fi
\renewcommand{\newacronym}[4][[]]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDescriptionDUAAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%

```

```

\glslongtok{##4}%
\newacronymhook
\DescriptionDUANewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
\SetDescriptionDUAAcronymDisplayStyle{\@gls@type}%
}%
}%
\newcommand*\SetDescriptionAcronymDisplayStyle}[1]{%
\defglsentryfmt[#1]{%
\ifdefempty\glscustomtext
{%
\ifglsused{\glslabel}%
{%
\let\gls@org@insert\glsinsert
\let\glsinsert\@empty
\acronymfont{\glsentryfmt}\gls@org@insert
}%
{%
\glsentryfmt
\ifglsymbol{\glslabel}%
{%
\glsifplural
{%
\def\@glo@symbol{\glsentrysymbolplural{\glslabel}}%
}%
{%
\def\@glo@symbol{\glsentrysymbol{\glslabel}}%
}%
\space(\protect\firstacronymfont
{\gls@symbol}
{\@glo@symbol}
{\mfirstucMakeUppercase{\@glo@symbol}})}%
}%
}%
}%
\glscustomtext\glsinsert}%
}%
}
\newcommand*\DescriptionNewAcronymDef){%
\edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand
\acrnameformat{\the\glsshorttok}{\the\glslongtok}},%
sort={\the\glsshorttok},%
first={\the\glslongtok},%

```

```

firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
symbol={\noexpand\@glo@text},%
symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
\the\glskeylisttok}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetDescriptionAcronymStyle}{%
\renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDescriptionAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \DescriptionNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
 \SetDescriptionAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
\renewcommand{\acronymfont}[1]{\textsc{##1}}
\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
\else

```



```

\ifglsmaller
\renewcommand*{\acronymfont}[1]{\textsmaller{##1}}%
\fi
\fi
}%
\newcommand*{\SetFootnoteAcronymDisplayStyle}[1]{%
\defglentryfmt[#1]{%
\ifdefempty\glscustomtext
{%
\let\gls@org@insert\glsinsert
\let\glsinsert@empty
\ifglsused{\glslabel}%
{%
\acronymfont{\glsentryfmt}\gls@org@insert
}%
{%
\firstacronymfont{\glsentryfmt}\gls@org@insert
\ifglshaslong{\glslabel}%
{%
\expandafter\protect\expandafter\acrfootnote\expandafter
{\@gls@link@opts}{\@gls@link@label}%
}%
\glsifplural
{\glsentrylongpl{\glslabel}}%
{\glsentrylong{\glslabel}}%
}%
}%
}%
}%
{\glscustomtext\glsinsert}%
}%
}
\newcommand*{\FootnoteNewAcronymDef}{%
\edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand\acronymfont{\the\glsshorttok}},%
sort={\the\glsshorttok},%
text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
first={\the\glsshorttok},%
firstplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\the\glslongtok},%
descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%

```

```

 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
 \@@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@@gls@expand@field{##1}{descplural}{##2}%
}%
\@do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@descplural\@org@gls@assign@descplural
}
\newcommand*\@SetFootnoteAcronymStyle{%
 \renewcommand*\@newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetFootnoteAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \FootnoteNewAcronymDef
 }%
 \@for\@gls@type:=\@glsacronymlists\do{%
 \SetFootnoteAcronymDisplayStyle{\@gls@type}%
 }%
 \ifglsacrsmallcaps
 \renewcommand*\@acronymfont}[1]{\textsc{##1}}%
 \renewcommand*\@acrpluralsuffix{\glsupacrpluralsuffix}%
 \else
 \ifglsacrsmaller
 \renewcommand*\@acronymfont}[1]{\textsmaller{##1}}%
 \fi
 \fi
 \ifglsacrdua
 \PackageError{glossaries}{Option clash: ‘footnote’ and ‘dua’
 can’t both be set}{%
 \fi

```

```

}%
\DeclareRobustCommand*\glsdoparenifnotempty}[2]{%
 \protected@edef\gls@tmp{#1}%
 \ifdefempty\gls@tmp
 {}%
 {%
 \ifx\gls@tmp\@gls@default@value
 \else
 \space (#2{#1})%
 \fi
 }%
}
}
\newcommand*\SetSmallAcronymDisplayStyle}[1]{%
 \def\glsentryfmt[#1]{%
 \ifdefempty\gls@customtext
 {%
 \let\gls@org@insert\glsinsert
 \let\glsinsert\@empty
 \ifglsused{\glslabel}%
 {%
 \acronymfont{\gls@genentryfmt}\gls@org@insert
 }%
 {%
 \gls@genentryfmt
 \ifgls@shassymbol{\glslabel}%
 {%
 \gls@sifplural
 {%
 \def\@glo@symbol{\gls@entrysymbolplural{\glslabel}}%
 }%
 {%
 \def\@glo@symbol{\gls@entrysymbol{\glslabel}}%
 }%
 \space
 (\gls@scapscase
 {\firstacronymfont{\@glo@symbol}}%
 {\firstacronymfont{\@glo@symbol}}%
 {\firstacronymfont{\mfirstucMakeUppercase{\@glo@symbol}}})%
 }%
 {}%
 }%
 }%
 {\gls@customtext\glsinsert}%
 }%
}
\newcommand*\SmallNewAcronymDef}{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{the\glslabeltok}%
 {%
 type=\acronymtype,%
 }
 }

```

```

name={\noexpand\acronymfont{\the\glsshorttok}},%
sort={\the\glsshorttok},%
text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
first={\the\glslongtok},%
firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\noexpand\@glo@first},%
descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
symbol={\the\glsshorttok},%
symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
\the\glskeylisttok
}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@descplural\gls@assign@descplural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@@gls@expand@field{##1}{descplural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@descplural\@org@gls@assign@descplural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetSmallAcronymStyle}{%
\renewcommand{\newacronym}[4][{}]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetSmallAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%

```

```

\glslongtok{##4}%
\newacronymhook
\SmallNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
 \SetSmallAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
 \renewcommand*\acronymfont[1]{\textsc{##1}}
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
\else
 \renewcommand*\acronymfont[1]{\textsmaller{##1}}
\fi
\ifglsacrdua
 \ifglsacrsmallcaps
 \PackageError{glossaries}{Option clash: ‘smallcaps’ and ‘dua’
 can’t both be set}{}%
 \else
 \PackageError{glossaries}{Option clash: ‘smaller’ and ‘dua’
 can’t both be set}{}%
 \fi
\fi
}%
\newcommand*\SetDUADisplayStyle[1]{%
 \defglsentryfmt[#1]{\glsentryfmt}%
}
\newcommand*\DUANewAcronymDef{%
 \edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 text={\the\glslongtok},%
 first={\the\glslongtok},%
 plural={\noexpand\expandonce\noexpand\@glo@longpl},%
 firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 description={\the\glslongtok},%
 descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 symbol={\the\glsshorttok},%
 symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 \the\glskeylisttok
 }%
 }%
 \let\@org@gls@assign@firstpl\gls@assign@firstpl
 \let\@org@gls@assign@plural\gls@assign@plural
 \let\@org@gls@assign@symbolplural\gls@assign@symbolplural

```

```

\let\org@gl@s@assign@descplural\gl@s@assign@descplural
\def\gl@s@assign@firstpl##1##2{%
 \@gl@s@expand@field{##1}{firstpl}{##2}%
}%
\def\gl@s@assign@plural##1##2{%
 \@gl@s@expand@field{##1}{plural}{##2}%
}%
\def\gl@s@assign@symbolplural##1##2{%
 \@gl@s@expand@field{##1}{symbolplural}{##2}%
}%
\def\gl@s@assign@descplural##1##2{%
 \@gl@s@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gl@s@assign@firstpl\org@gl@s@assign@firstpl
\let\gl@s@assign@plural\org@gl@s@assign@plural
\let\gl@s@assign@symbolplural\org@gl@s@assign@symbolplural
\let\gl@s@assign@descplural\org@gl@s@assign@descplural
}
\newcommand*{\SetDUASStyle}{%
 \renewcommand{\newacronym}[4][]{%
 \ifx\@gl@s@acronymlists\@empty
 \def\@gl@o@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@gl@o@type}%
 \SetDUADisplayStyle{\@gl@o@type}%
 \fi
 \gl@skeylisttok{##1}%
 \gl@slabeltok{##2}%
 \gl@sshorttok{##3}%
 \gl@slongtok{##4}%
 \newacronymhook
 \DUANewAcronymDef
 }%
 \@for\@gl@s@type:=\@gl@s@acronymlists\do{%
 \SetDUADisplayStyle{\@gl@s@type}%
 }%
}
\newcommand*{\SetAcronymStyle}{%
 \SetDefaultAcronymStyle
 \ifgl@sacrdescription
 \ifgl@sacrfootnote
 \SetDescriptionFootnoteAcronymStyle
 \else
 \ifgl@sacrdua
 \SetDescriptionDUAAcronymStyle
 \else
 \SetDescriptionAcronymStyle
 \fi
 \fi
 \fi
}

```

```

\else
 \ifglacrfootnote
 \SetFootnoteAcronymStyle
 \else
 \ifthenelse{\boolean{glacrsmallcaps}\OR
 \boolean{glacrsmaller}}{%
 {%
 \SetSmallAcronymStyle
 }%
 }%
 \ifglacrdua
 \SetDUASStyle
 \fi
 }%
\fi
}
\SetAcronymStyle
\newcommand*{\SetCustomDisplayStyle}[1]{%
 \defglentryfmt[#1]{\glsgenentryfmt}%
}
\newcommand*{\CustomAcronymFields}{%
 name={\the\glsshorttok},%
 description={\the\glslongtok},%
 first={\acrfullformat{\the\glslongtok}{\the\glsshorttok}},%
 firstplural={\acrfullformat
 {\noexpand\glsentrylongpl{\the\glslabeltok}}%
 {\noexpand\glsentryshortpl{\the\glslabeltok}}},%
 text={\the\glsshorttok},%
 plural={\the\glsshorttok\noexpand\acrpluralsuffix}%
}
\newcommand*{\CustomNewAcronymDef}{%
 \protected@edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=acronymtype,%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 user1={\the\glsshorttok},%
 user2={\the\glsshorttok\noexpand\acrpluralsuffix},%
 user3={\the\glslongtok},%
 user4={\the\glslongtok\noexpand\acrpluralsuffix},%
 \CustomAcronymFields,%
 \the\glskeylisttok
 }%
 }%
 \@do@newglossaryentry
}

```

```

\newcommand*\SetCustomStyle{%
 \renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetCustomDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \CustomNewAcronymDef
 }%
 \@for\@gls@type:=\@glsacronymlists\do{%
 \SetCustomDisplayStyle{\@gls@type}%
 }%
}
\RequirePackage{glossary-hypernav}[=v4.46]
\@gls@loadlist
\@gls@loadlong
\@gls@loadsuper
\@gls@loadtree
\ifx\@glossary@default@style\relax
\else
 \setglossarystyle{\@glossary@default@style}
\fi
\newcommand*\showgloparent}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@parent\endcsname
}
\newcommand*\showglolevel}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@level\endcsname
}
\newcommand*\showglotext}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@text\endcsname
}
\newcommand*\showgloplural}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@plural\endcsname
}
\newcommand*\showglofirst}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@first\endcsname
}
\newcommand*\showglofirstpl}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstpl\endcsname
}
\newcommand*\showglotype}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@type\endcsname
}
\newcommand*\showglocounter}[1]{%

```



```

\expandafter\show\csname glo@glstdetoklabel{#1}@counter\endcsname
}
\newcommand*{\showgluseri}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@useri\endcsname
}
\newcommand*{\showgluserii}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@userii\endcsname
}
\newcommand*{\showgluseriii}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@useriii\endcsname
}
\newcommand*{\showgluseriv}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@useriv\endcsname
}
\newcommand*{\showgluserv}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@userv\endcsname
}
\newcommand*{\showgluservi}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@uservi\endcsname
}
\newcommand*{\showgloname}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@name\endcsname
}
\newcommand*{\showglodesc}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@desc\endcsname
}
\newcommand*{\showglodescplural}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@descplural\endcsname
}
\newcommand*{\showglosort}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@sort\endcsname
}
\newcommand*{\showglosymbol}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@symbol\endcsname
}
\newcommand*{\showglosymbolplural}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@symbolplural\endcsname
}
\newcommand*{\showgloshort}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@short\endcsname
}
\newcommand*{\showglolong}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@long\endcsname
}
\newcommand*{\showgloindex}[1]{%
\expandafter\show\csname glo@glstdetoklabel{#1}@index\endcsname
}
\newcommand*{\showgloflag}[1]{%
\expandafter\show\csname ifglo@glstdetoklabel{#1}@flag\endcsname
}
}

```

```

\newcommand*\showgloloclist}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@loclist\endcsname
}
\newcommand*\showglofield}[2]{%
 \csshow{glo@glstdetoklabel{#1}@#2}%
}
\newcommand*\showacronymlists}{%
 \show@glssacronymlists
}
\newcommand*\showglossaries}{%
 \show@glo@types
}
\newcommand*\showglossaryin}[1]{%
 \expandafter\show\csname @glotype@#1@in\endcsname
}
\newcommand*\showglossaryout}[1]{%
 \expandafter\show\csname @glotype@#1@out\endcsname
}
\newcommand*\showglossarytitle}[1]{%
 \expandafter\show\csname @glotype@#1@title\endcsname
}
\newcommand*\showglossarycounter}[1]{%
 \expandafter\show\csname @glotype@#1@counter\endcsname
}
\newcommand*\showglossaryentries}[1]{%
 \expandafter\show\csname glist@#1\endcsname
}
\csname ifglcompatible-2.07\endcsname
 \RequirePackage{glossaries-compatible-207}[=v4.46]
\fi

```

## 8.2 Rollback v4.46 (glossaries-accsupp-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-accsupp}[2020/03/19 v4.46 (NLCT)
 Experimental glossaries accessibility]
\DeclareOption*\PassOptionsToPackage{\CurrentOption}{glossaries}}
\ProcessOptions
\@ifpackageloaded{glossaries-extra}
{%
 \ifx@glsxtr@doaccsupp\empty
 \GlossariesWarning{The ‘glossaries-accsupp’
 package has been loaded\MessageBreak
 after the ‘glossaries-extra’ package. This\MessageBreak
 can cause a failure to integrate both packages. \MessageBreak
 Either use the ‘accsupp’ option when you load\MessageBreak
 ‘glossaries-extra’ or load ‘glossaries-accsupp’\MessageBreak
 before loading ‘glossaries-extra’}%
}

```

```

\fi
}
{}
\def\compatibleglossentry#1#2{%
\ toks@{#2}%
\protected@edef\do@glossentry{%
\ noexpand\accsuppglossaryentryfield{#1}%
{ \ noexpand\glsnamefont
{\ expandafter\expandonce\csname glo@\glsdetoklabel{#1}@name\endcsname}}%
{ \ expandafter\expandonce\csname glo@\glsdetoklabel{#1}@desc\endcsname}%
{ \ expandafter\expandonce\csname glo@\glsdetoklabel{#1}@symbol\endcsname}%
{ \ the\toks@}%
}%
\do@glossentry
}
\def\compatiblesubglossentry#1#2#3{%
\ toks@{#3}%
\protected@edef\do@subglossentry{%
\ noexpand\accsuppglossarysubentryfield{\number#1}%
{#2}%
{ \ noexpand\glsnamefont
{\ expandafter\expandonce\csname glo@\glsdetoklabel{#2}@name\endcsname}}%
{ \ expandafter\expandonce\csname glo@\glsdetoklabel{#2}@desc\endcsname}%
{ \ expandafter\expandonce\csname glo@\glsdetoklabel{#2}@symbol\endcsname}%
{ \ the\toks@}%
}%
\do@subglossentry
}
\RequirePackage{glossaries}[v4.46]
\providecommand{\gls@accsupp@engine}{accsupp}
\providecommand{\gls@accessibility}[4]{#4}
\ifdefstring\gls@accsupp@engine{accsupp}
{
\RequirePackage{accsupp}
\renewcommand{\gls@accessibility}[4]{%
\BeginAccSupp{#1,#2={#3}}#4\EndAccSupp{}}
}
}
{}
\newcommand{\glsaccessibility}[4][]{%
\@glsshowaccsupp{#1}{#2}{#3}%
\gls@accessibility{#1}{#2}{#3}{#4}%
}
\define@key{glossentry}{access}{%
\def\@glo@access{#1}%
}
\define@key{glossentry}{textaccess}{%
\def\@glo@textaccess{#1}%
}
\define@key{glossentry}{firstaccess}{%

```

```

\def\@glo@firstaccess{#1}%
}
\define@key{glossentry}{pluralaccess}{%
\def\@glo@pluralaccess{#1}%
}
\define@key{glossentry}{firstpluralaccess}{%
\def\@glo@firstpluralaccess{#1}%
}
\define@key{glossentry}{symbolaccess}{%
\def\@glo@symbolaccess{#1}%
}
\define@key{glossentry}{symbolpluralaccess}{%
\def\@glo@symbolpluralaccess{#1}%
}
\define@key{glossentry}{descriptionaccess}{%
\def\@glo@descaccess{#1}%
}
\define@key{glossentry}{descriptionpluralaccess}{%
\def\@glo@descpluralaccess{#1}%
}
\define@key{glossentry}{shortaccess}{%
\def\@glo@shortaccess{#1}%
}
\define@key{glossentry}{shortpluralaccess}{%
\def\@glo@shortpluralaccess{#1}%
}
\define@key{glossentry}{longaccess}{%
\def\@glo@longaccess{#1}%
}
\define@key{glossentry}{longpluralaccess}{%
\def\@glo@longpluralaccess{#1}%
}
\define@key{glossentry}{user1access}{%
\def\@glo@useriaccess{#1}%
}
\define@key{glossentry}{user2access}{%
\def\@glo@useriiaccess{#1}%
}
\define@key{glossentry}{user3access}{%
\def\@glo@useriiiaccess{#1}%
}
\define@key{glossentry}{user4access}{%
\def\@glo@userivaccess{#1}%
}
\define@key{glossentry}{user5access}{%
\def\@glo@uservaccess{#1}%
}
\define@key{glossentry}{user6access}{%
\def\@glo@userviaccess{#1}%
}
}

```

```

\appto\@gls@keymap{,%
 {access}{access},%
 {textaccess}{textaccess},%
 {firstaccess}{firstaccess},%
 {pluralaccess}{pluralaccess},%
 {firstpluralaccess}{firstpluralaccess},%
 {symbolaccess}{symbolaccess},%
 {symbolpluralaccess}{symbolpluralaccess},%
 {descaccess}{descaccess},%
 {descpluralaccess}{descpluralaccess},%
 {shortaccess}{shortaccess},%
 {shortpluralaccess}{shortpluralaccess},%
 {longaccess}{longaccess},%
 {longpluralaccess}{longpluralaccess},%
 {user1access}{useriaccess},%
 {user2access}{useriiaccess},%
 {user3access}{useriiiaccess},%
 {user4access}{userivaccess},%
 {user5access}{uservaccess},%
 {user6access}{userviaccess}%
}
\def\@gls@noaccess{\relax}
\let\@gls@oldnewglossaryentryprehook\@newglossaryentryprehook
\renewcommand*{\@newglossaryentryprehook}{%
 \@gls@oldnewglossaryentryprehook
 \def\@glo@access{\relax}%
 \def\@glo@textaccess{\@glo@access}%
 \def\@glo@firstaccess{\@glo@access}%
 \def\@glo@pluralaccess{\@glo@textaccess}%
 \def\@glo@firstpluralaccess{\@glo@pluralaccess}%
 \def\@glo@symbolaccess{\relax}%
 \def\@glo@symbolpluralaccess{\@glo@symbolaccess}%
 \def\@glo@descaccess{\relax}%
 \def\@glo@descpluralaccess{\@glo@descaccess}%
 \def\@glo@shortaccess{\relax}%
 \def\@glo@shortpluralaccess{\@glo@shortaccess}%
 \def\@glo@longaccess{\relax}%
 \def\@glo@longpluralaccess{\@glo@longaccess}%
 \def\@glo@useriaccess{\relax}%
 \def\@glo@useriiaccess{\relax}%
 \def\@glo@useriiiaccess{\relax}%
 \def\@glo@userivaccess{\relax}%
 \def\@glo@uservaccess{\relax}%
 \def\@glo@userviaccess{\relax}%
}
\let\@gls@oldnewglossaryentryposthook\@newglossaryentryposthook
\renewcommand*{\@newglossaryentryposthook}{%
 \@gls@oldnewglossaryentryposthook
 \expandafter
 \protected@xdef\csname glo@\@glo@label @access\endcsname{%

```

```

 \@glo@access}%
\expandafter
\protected@xdef\csname glo@\@glo@label @textaccess\endcsname{%
 \@glo@textaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @firstaccess\endcsname{%
 \@glo@firstaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @pluralaccess\endcsname{%
 \@glo@pluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @firstpluralaccess\endcsname{%
 \@glo@firstpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @symbolaccess\endcsname{%
 \@glo@symbolaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @symbolpluralaccess\endcsname{%
 \@glo@symbolpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @descaccess\endcsname{%
 \@glo@descaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @descpluralaccess\endcsname{%
 \@glo@descpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @shortaccess\endcsname{%
 \@glo@shortaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @shortpluralaccess\endcsname{%
 \@glo@shortpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @longaccess\endcsname{%
 \@glo@longaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @longpluralaccess\endcsname{%
 \@glo@longpluralaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriaccess\endcsname{%
 \@glo@useriaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriiaccess\endcsname{%
 \@glo@useriiaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @useriiiaccess\endcsname{%
 \@glo@useriiiaccess}%
\expandafter
\protected@xdef\csname glo@\@glo@label @userivaccess\endcsname{%
 \@glo@userivaccess}%
\expandafter

```

```

\protected@xdef\csname glo@\glo@label @servaccess\endcsname{%
 \@glo@servaccess}%
\expandafter
\protected@xdef\csname glo@\glo@label @serviaccess\endcsname{%
 \@glo@serviaccess}%
}
\newcommand*\glsentryaccess}[1]{%
 \@gls@entry@field{#1}{access}%
}
\newcommand*\glsentrytextaccess}[1]{%
 \@gls@entry@field{#1}{textaccess}%
}
\newcommand*\glsentryfirstaccess}[1]{%
 \@gls@entry@field{#1}{firstaccess}%
}
\newcommand*\glsentrypluralaccess}[1]{%
 \@gls@entry@field{#1}{pluralaccess}%
}
\newcommand*\glsentryfirstpluralaccess}[1]{%
 \@gls@entry@field{#1}{firstpluralaccess}%
}
\newcommand*\glsentrysymbolaccess}[1]{%
 \@gls@entry@field{#1}{symbolaccess}%
}
\newcommand*\glsentrysymbolpluralaccess}[1]{%
 \@gls@entry@field{#1}{symbolpluralaccess}%
}
\newcommand*\glsentrydescaccess}[1]{%
 \@gls@entry@field{#1}{descaccess}%
}
\newcommand*\glsentrydescpluralaccess}[1]{%
 \@gls@entry@field{#1}{descpluralaccess}%
}
\newcommand*\glsentryshortaccess}[1]{%
 \@gls@entry@field{#1}{shortaccess}%
}
\newcommand*\glsentryshortpluralaccess}[1]{%
 \@gls@entry@field{#1}{shortpluralaccess}%
}
\newcommand*\glsentrylongaccess}[1]{%
 \@gls@entry@field{#1}{longaccess}%
}
\newcommand*\glsentrylongpluralaccess}[1]{%
 \@gls@entry@field{#1}{longpluralaccess}%
}
\newcommand*\glsentryuseriaccess}[1]{%
 \@gls@entry@field{#1}{useriaccess}%
}
\newcommand*\glsentryuseriiaaccess}[1]{%
 \@gls@entry@field{#1}{useriiaaccess}%
}

```

```

}
\newcommand*\glsentryuseriiiaccess}[1]{%
 \@gls@entry@field{#1}{useriiiaccess}%
}
\newcommand*\glsentryuserivaccess}[1]{%
 \@gls@entry@field{#1}{userivaccess}%
}
\newcommand*\glsentryuservaccess}[1]{%
 \@gls@entry@field{#1}{uservaccess}%
}
\newcommand*\glsentryuserviaccess}[1]{%
 \@gls@entry@field{#1}{userviaccess}%
}
\newcommand{\glsfieldaccsupp}[4]{%
 \ifdef\glscategory
 {%
 \ifcsdef{glsxtr\glscategory{#4}#3accsupp}%
 {\csname glsxtr\glscategory{#4}#3accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{glsxtr\glscategory{#4}accsupp}%
 {\csname glsxtr\glscategory{#4}accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
 }%
 }%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
}
\newcommand{\xglsfieldaccsupp}[1]{%
 \protected@edef\@gls@replacementtext{#1}%
 \expandafter\glsfieldaccsupp\expandafter{\@gls@replacementtext}%
}
\newcommand*\glsshortaccsupp}[2]{\glsaccessibility{E}{#1}{#2}}
\newcommand*\glsshortplaccsupp{\glsshortaccsupp}
\newcommand*\glsaccsupp}[2]{\glsaccessibility{ActualText}{#1}{#2}}
\newcommand*\xglsaccsupp}[2]{%
 \protected@edef\@gls@replacementtext{#1}%
 \expandafter\glsaccsupp\expandafter{\@gls@replacementtext}{#2}%
}
\newcommand*\@gls@access@display}[2]{%
 \protected@edef\@glo@access{#2}%
 \ifx\@glo@access\@gls@noaccess
 #1%
 \else

```



```

 \xglsaccsupp{\@glo@access}{#1}%
 \fi
}
\newcommand*\@gls@fieldaccess@display[4]{%
 \protected@edef\@glo@access{#4}%
 \ifdefequal\@glo@access\@gls@noaccess
 {#3}%
 {\expandafter\glsfieldaccsupp\expandafter{\@glo@access}{#3}{#2}{#1}}%
}
\newrobustcmd*\@gls@nameaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@access}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{name}{#1}{\glsentryaccess{#2}}}%
}
\newrobustcmd*\@gls@textaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@textaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{text}{#1}{\glsentrytextaccess{#2}}}%
}
\newrobustcmd*\@gls@pluralaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@pluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{plural}{#1}{\glsentrypluralaccess{#2}}}%
}
\newrobustcmd*\@gls@firstaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{first}{#1}{\glsentryfirstaccess{#2}}}%
}
\newrobustcmd*\@gls@firstpluralaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{firstpl}{#1}{\glsentryfirstpluralaccess{#2}}}%
}
\newrobustcmd*\@gls@symbolaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{symbol}{#1}{\glsentrysymbolaccess{#2}}}%
}
\newrobustcmd*\@gls@symbolpluralaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{symbolplural}{#1}{\glsentrysymbolpluralaccess{#2}}}%
}
\newrobustcmd*\@gls@descriptionaccessdisplay[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@descaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{desc}{#1}{\glsentrydescaccess{#2}}}%
}
\newrobustcmd*\@gls@descriptionpluralaccessdisplay[2]{%

```

```

\ifcsundef{glo@glstdetoklabel{#2}@descpluralaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{descplural}{#1}{\glstentrydescpluralaccess{#2}}}%
}
\newrobustcmd*{\glsshortaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@shortaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{short}{#1}{\glstentryshortaccess{#2}}}%
}
\newrobustcmd*{\glsshortpluralaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@shortpluralaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{shortpl}{#1}{\glstentryshortpluralaccess{#2}}}%
}
\newrobustcmd*{\glslongaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@longaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{long}{#1}{\glstentrylongaccess{#2}}}%
}
\newrobustcmd*{\glslongpluralaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@longpluralaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{longpl}{#1}{\glstentrylongpluralaccess{#2}}}%
}
\newrobustcmd*{\glsuseriaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@useriaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{useri}{#1}{\glstentryuseriaccess{#2}}}%
}
\newrobustcmd*{\glsuseriiaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@useriiaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{userii}{#1}{\glstentryuseriiaccess{#2}}}%
}
\newrobustcmd*{\glsuseriiiaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@useriiiaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{useriii}{#1}{\glstentryuseriiiaccess{#2}}}%
}
\newrobustcmd*{\glsuserivaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@userivaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{useriv}{#1}{\glstentryuserivaccess{#2}}}%
}
\newrobustcmd*{\glsuservaccessdisplay}[2]{%
\ifcsundef{glo@glstdetoklabel{#2}@uservaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{userv}{#1}{\glstentryuservaccess{#2}}}%
}
\newrobustcmd*{\glsuserviaccessdisplay}[2]{%

```

```

\ifcsundef{glo@\glsdetoklabel{#2}@userviaccess}%
{#1}%
{\@gls@fieldaccess@display{#2}{uservi}{#1}{\glsentryuserviaccess{#2}}}%
}
\newrobustcmd*{\glsaccessdisplay}[3]{%
\ifcsundef{gls#1accessdisplay}%
{%
\PackageError{glossaries-accsupp}{No accessibility support
for key ‘#1’}{%
}%
}%
\csname gls#1accessdisplay\endcsname{#2}{#3}%
}%
}
\renewcommand*{\@gls@default@entryfmt}[2]{%
\ifdefempty\glscustomtext
{%
\glsifplural
{%
\glscapscase
{%
\ifglsused\glslabel
{%
#2{\glspluralaccessdisplay
{\glsentryplural{\glslabel}}{\glslabel}}%
{\glsdescriptionpluralaccessdisplay
{\glsentrydescplural{\glslabel}}{\glslabel}}%
{\glsymbolpluralaccessdisplay
{\glsentrysymbolplural{\glslabel}}{\glslabel}}
{\glsinsert}}%
}%
}%
#1{\glsfirstpluralaccessdisplay
{\glsentryfirstplural{\glslabel}}{\glslabel}}%
{\glsdescriptionpluralaccessdisplay
{\glsentrydescplural{\glslabel}}{\glslabel}}%
{\glsymbolpluralaccessdisplay
{\glsentrysymbolplural{\glslabel}}{\glslabel}}%
{\glsinsert}}%
}%
}%
}%
\ifglsused\glslabel
{%
#2{\glspluralaccessdisplay
{\Glsentryplural{\glslabel}}{\glslabel}}%
{\glsdescriptionpluralaccessdisplay
{\glsentrydescplural{\glslabel}}{\glslabel}}%
{\glsymbolpluralaccessdisplay
{\glsentrysymbolplural{\glslabel}}{\glslabel}}%
}
}
}

```

```

 {\glsinsert}%
 }%
 {%
 #1{\glsfirstpluralaccessdisplay
 {\Glsentryfirstplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}%
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \MakeUppercase{%
 #2{\glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 }%
 {%
 \MakeUppercase{%
 #1{\glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 #2{\glstextaccessdisplay
 {\glsentrytext{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}%
 }%
 }%
 }%
 }%

```

```

#1{\glsfirstaccessdisplay
 {\glsentryfirst{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
}%
}%
{%
\ifglsused\glslabel
{%
#2{\glstextaccessdisplay
 {\Glsentrytext{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
}%
{%
#1{\glsfirstaccessdisplay
 {\Glsentryfirst{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
}%
}%
{%
\ifglsused\glslabel
{%
\MakeUppercase{%
#2{\glstextaccessdisplay
 {\glsentrytext{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
}%
{%
\MakeUppercase{%
#1{\glsfirstaccessdisplay
 {\glsentryfirst{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%

```

```

 {\glsinsert}}%
 }%
 }%
}%
{%
\ifglsused{\glslabel}%
 {%
 #2{\glscustomtext}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}%
 }%
 {%
 #1{\glscustomtext}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}%
 }%
}%
}
\renewcommand*{\glsgenentryfmt}{%
\ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\Glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 }%
}

```

```

}%
{%
 \glsfirstpluralaccessdisplay
 {\Glsentryfirstplural{\glslabel}}{\glslabel}%
 \glsinsert
}%
}%
{%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentryplural{\glslabel}}}%
 {\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 {%
 \glsfirstpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentryfirstplural{\glslabel}}}%
 {\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
}%
}%
{%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glstextaccessdisplay{\glsentrytext{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstaccessdisplay{\glsentryfirst{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \glstextaccessdisplay{\Glsentrytext{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstaccessdisplay{\Glsentryfirst{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%

```

```

 \glstextaccessdisplay
 {\mfirstucMakeUppercase{\glentrytext{\glslabel}}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 {%
 \glsfirstaccessdisplay
 {\mfirstucMakeUppercase{\glentryfirst{\glslabel}}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 }%
}
}
}
{%
 \glscustomtext\glsinsert
}
}
\renewcommand*{\glsgenacfmt}{%
 \ifdefempty\glscustomtext
 {%
 \ifglsused\glslabel
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \acronymfont
 {\glsshortpluralaccessdisplay
 {\glentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 }%
 {%
 \acronymfont
 {\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont
 {\glsshortpluralaccessdisplay
 {\glentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \acronymfont
 {\glsshortaccessdisplay{\glentryshort{\glslabel}}{\glslabel}}%
 \glsinsert
 }

```



```

 }%
 {%
 \acronymfont
 {\glsshortaccessdisplay{\Glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{%
 \glsshortaccessdisplay{\glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert}%
 }%
 }%
 }%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genplacrfullformat{\glslabel}{\glsinsert}}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genacrfullformat{\glslabel}{\glsinsert}}%
 }%
 }%
}
}
}
\renewcommand*{\genacrfullformat}[2]{%
 \glslongaccessdisplay{\glsentrylong{#1}}{#1}#2\space

```

```

(\glsshortaccessdisplay{\protect\firstacronymfont{\glentryshort{#1}}}{#1})%
}
\renewcommand*{\Genacrfullformat}[2]{%
\glslongaccessdisplay{\Glsentrylong{#1}}{#1}#2\space
(\glsshortaccessdisplay{\protect\firstacronymfont{\glentryshort{#1}}}{#1})%
}
\renewcommand*{\genplacrfullformat}[2]{%
\glslongpluralaccessdisplay{\glentrylongpl{#1}}{#1}#2\space
(\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\glentryshortpl{#1}}}{#1})%
}
\renewcommand*{\Genplacrfullformat}[2]{%
\glslongpluralaccessdisplay{\Glsentrylongpl{#1}}{#1}#2\space
(\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\glentryshortpl{#1}}}{#1})%
}
\def\@acrshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\glsshortaccessdisplay{\glentryshort{#2}}{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@Acrshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@secondofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\glsshortaccessdisplay{\Glsentryshort{#2}}{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@ACRshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@thirdofthree

```

```

\let\glsinsert\@empty
\def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay
 {\MakeUppercase{\glsentryshort{#2}}}{#2}}#3%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glslongaccessdisplay{\glsentrylong{#2}}{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\def\@AcrLong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glslongaccessdisplay{\Glsentrylong{#2}}{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\def\@ACRLong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glslongaccessdisplay{%
 \MakeUppercase{\glsentrylong{#2}}}{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%

```

```

\glspostlinkhook
}
\def\@glstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstextaccessdisplay{\glstextentrytext{#2}}{#2}#3}%
}
\def\@GLstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstextaccessdisplay{\GLstextentrytext{#2}}{#2}#3}%
}
\def\@GLStext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glstextaccessdisplay{\mfirstucMakeUppercase{\glstextentrytext{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstaccessdisplay{\glstextentryfirst{#2}}{#2}#3}%
}
\def\@Glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstaccessdisplay{\GLstextentryfirst{#2}}{#2}#3}%
}
\def\@GLSfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsfirstaccessdisplay{\mfirstucMakeUppercase{\glstextentryfirst{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glspluralaccessdisplay{\glstextentryplural{#2}}{#2}#3}%
}
\def\@Glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glspluralaccessdisplay{\GLstextentryplural{#2}}{#2}#3}%
}
\def\@GLSplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glspluralaccessdisplay{\mfirstucMakeUppercase{\glstextentryplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstpluralaccessdisplay{\glstextentryfirstplural{#2}}{#2}#3}%
}
\def\@Glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsfirstpluralaccessdisplay{\GLstextentryfirstplural{#2}}{#2}#3}%
}
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsfirstpluralaccessdisplay{\mfirstucMakeUppercase{\glstextentryfirstplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\glstextentryname{#2}}{#2}#3}%
}
\def\@Glsname@#1#2[#3]{%

```

```

\@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\Glsentryname{#2}}{#2}#3}%
}
\def\@GLSname@#1#2[#3]{%
\@gls@field@link{#1}{#2}%
{\glsnameaccessdisplay{\mfirstucMakeUppercase{\glsentryname{#2}}}{#2}%
\mfirstucMakeUppercase{#3}}%
}
\def\@glsdesc@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\glsentrydesc{#2}}{#2}#3}%
}
\def\@Glsdesc@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\Glsentrydesc{#2}}{#2}#3}%
}
\def\@GLSdesc@#1#2[#3]{%
\@gls@field@link{#1}{#2}%
{\glsdescriptionaccessdisplay{\mfirstucMakeUppercase{\glsentrydesc{#2}}}{#2}%
\mfirstucMakeUppercase{#3}}%
}
\def\@glsdescplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\glsentrydescplural{#2}}{#2}#3}%
}
\def\@Glsdescplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\Glsentrydescplural{#2}}{#2}#3}%
}
\def\@GLSdescplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}%
{\glsdescriptionpluralaccessdisplay{\mfirstucMakeUppercase{\glsentrydescplural{#2}}}{#2}%
\mfirstucMakeUppercase{#3}}%
}
\def\@glsymbol@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsymbolaccessdisplay{\glsentrysymbol{#2}}{#2}#3}%
}
\def\@Glsymbol@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsymbolaccessdisplay{\Glsentrysymbol{#2}}{#2}#3}%
}
\def\@GLSsymbol@#1#2[#3]{%
\@gls@field@link{#1}{#2}%
{\glsymbolaccessdisplay{\mfirstucMakeUppercase{\glsentrysymbol{#2}}}{#2}%
\mfirstucMakeUppercase{#3}}%
}
\def\@glsymbolplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsymbolpluralaccessdisplay{\glsentrysymbolplural{#2}}{#2}#3}%
}
\def\@Glsymbolplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsymbolpluralaccessdisplay{\Glsentrysymbolplural{#2}}{#2}#3}%
}
\def\@GLSsymbolplural@#1#2[#3]{%
\@gls@field@link{#1}{#2}%
{\glsymbolpluralaccessdisplay{\mfirstucMakeUppercase{\glsentrysymbolplural{#2}}}{#2}%
\mfirstucMakeUppercase{#3}}%
}

```

```

}
\def\@glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\glsentryuseri{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\Glsentryuseri{#2}}{#2}#3}%
}
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriaccessdisplay{\mfirstucMakeUppercase{\glsentryuseri{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\glsentryuserii{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\Glsentryuserii{#2}}{#2}#3}%
}
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriiaccessdisplay{\mfirstucMakeUppercase{\glsentryuserii{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\glsentryuseriii{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\Glsentryuseriii{#2}}{#2}#3}%
}
\def\@GLSuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriiiaccessdisplay{\mfirstucMakeUppercase{\glsentryuseriii{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\glsentryuseriv{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\Glsentryuseriv{#2}}{#2}#3}%
}
\def\@GLSuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuserivaccessdisplay{\mfirstucMakeUppercase{\glsentryuseriv{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\glsentryuserv{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\Glsentryuserv{#2}}{#2}#3}%
}

```

```

}
\def\@GLSuser@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuseraccessdisplay{\mfirstucMakeUppercase{\glsentryuser{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\glsentryuseri{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\Glsentryuseri{#2}}{#2}#3}%
}
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuseriaccessdisplay{\mfirstucMakeUppercase{\glsentryuseri{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
}
\renewcommand*\@glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\glsentryname{#1}}{#1}}%
 }%
}
\renewcommand*\@glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\Glsentryname{#1}}{#1}}%
 }%
}
}
\renewcommand*\@glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\glsentrydesc{#1}}{#1}%
 }%
}
\renewcommand*\@Glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\Glsentrydesc{#1}}{#1}%
 }%
}
}
\renewcommand*\@glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsymbolaccessdisplay{\glsentrysymbol{#1}}{#1}%
 }%
}
\renewcommand*\@Glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%

```

```

 \glssymbolaccessdisplay{\Glsentrysymbol{#1}}{#1}%
 }%
}
\newcommand*\accsuppglossaryentryfield}[5]{%
 \glossaryentryfield{#1}%
 {\glsnameaccessdisplay{#2}{#1}}%
 {\glsdescriptionaccessdisplay{#3}{#1}}%
 {\glssymbolaccessdisplay{#4}{#1}}{#5}%
}
\newcommand*\accsuppglossarysubentryfield}[6]{%
 \glossarysubentryfield{#1}{#2}%
 {\glsnameaccessdisplay{#3}{#2}}%
 {\glsdescriptionaccessdisplay{#4}{#2}}%
 {\glssymbolaccessdisplay{#5}{#2}}{#6}%
}
\renewacronymstyle{long-short}%
{%
 \ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \renewcommand*\Genacrfullformat}[2]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}##2\space
 (\glsshortaccessdisplay
 {\protect\firstacronymfont{\glsentryshort{##1}}}{##1})%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \glslongaccessdisplay{\Glsentrylong{##1}}{##1}##2\space
 (\glsshortaccessdisplay
 {\protect\firstacronymfont{\glsentryshort{##1}}}{##1})%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}##2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1})%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}##2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1})%
 }%
 \renewcommand*\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}
 }
 \renewcommand*\acronymsort}[2]{##1}%
 \renewcommand*\acronymfont}[1]{##1}%
 \renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
 \renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\renewacronymstyle{short-long}%
{%

```



```

\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\glsshortaccessdisplay
{\protect\firstacronymfont{\glsentryshort{##1}}}{##1}##2\space
(\glslongaccessdisplay{\glsentrylong{##1}}{##1})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\glsshortaccessdisplay
{\protect\firstacronymfont{\Glsentryshort{##1}}}{##1}##2\space
(\glslongaccessdisplay{\glsentrylong{##1}}{##1})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1}##2\space
(\glslongpluralaccessdisplay
{\glsentrylongpl{##1}}{##1})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\Glsentryshortpl{##1}}}{##1}##2\space
(\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1})%
}%
\renewcommand*{\acronymentry}[1]{%
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\renewacronymstyle{long-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
(\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}
\renewacronymstyle{long-sc-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{%
\GlsUseAcrStyleDefs{long-sc-short}%
}

```

```

\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{long-sm-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sm-short}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{sc-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sc-short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{sm-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sm-short-long}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%

```

```

\renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{dua}%
{%
 \ifdefempty\glscustomtext
 {%
 \ifglshaslong{\glslabel}%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \glslongpluralaccessdisplay{\glsentrylongpl{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glslongpluralaccessdisplay{\Glsentrylongpl{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glslongpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylongpl{\glslabel}}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \glslongaccessdisplay{\glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%
 \glslongaccessdisplay{\Glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%
 \glslongaccessdisplay
 {\mfirstucMakeUppercase
 {\glsentrylong{\glslabel}\glsinsert}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 }%
 }%
 {%
 \glsgenentryfmt
 }%
 {\glscustomtext\glsinsert}%
}%
{%

```

```

\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay{\Glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\Glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\glsentryfull}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}%
\renewcommand*{\Glsentryfull}[1]{%
 \glslongaccessdisplay{\Glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}\space
 (\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}}{##1})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}\space
 (\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}}{##1})%
}%
\renewcommand*{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}%
}

```

```

\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\renewacronymstyle{dua-desc}%
{%
 \GlsUseAcrEntryDispStyle{dua}%
}%
{%
 \GlsUseAcrStyleDefs{dua}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\acronymfont{\glsentrylong{##1}}}{##1}}%
 \renewcommand*\acronymsort}[2]{##2}%
}%
\renewacronymstyle{footnote}%
{%
 \ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \glshyperfirstfalse
 \renewcommand*\genacrfullformat}[2]{%
 \glsshortaccessdisplay
 {\protect\firstacronymfont{\glsentryshort{##1}}}{##1}##2%
 \protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}}{##1}}%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \glsshortaccessdisplay
 {\firstacronymfont{\Glsentryshort{##1}}}{##1}##2%
 \protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}}{##1}}%
 }%
 \renewcommand*\genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1}##2%
 \protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}}{##1}}%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\Glsentryshortpl{##1}}}{##1}##2%
 \protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}}{##1}}%
 }%
 \renewcommand*\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}%
 \renewcommand*\acronymsort}[2]{##1}%
 \renewcommand*\acronymfont}[1]{##1}%
 \renewcommand*\acrpluralsuffix{\glspluralsuffix}%
 \renewcommand*\acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2}##3\space
 }%
 }%

```

```

 (\glslongaccessdisplay{\glsentrylong{##2}}{##2}})%
\renewcommand*\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay{\acronymfont{\Glsentryshort{##2}}}{##2}##3\space
 (\glslongaccessdisplay{\glsentrylong{##2}}{##2}})%
\renewcommand*\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay
 {\mfirstucMakeUppercase
 {\acronymfont{\glsentryshort{##2}}}{##2}##3\space
 (\glslongaccessdisplay{\glsentrylong{##2}}{##2}})}}%
\renewcommand*\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}}{##2}})}%
\renewcommand*\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\Glsentryshortpl{##2}}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}})}%
\renewcommand*\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\mfirstucMakeUppercase
 {\acronymfont{\glsentryshortpl{##2}}}{##2}##3\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##2}}{##2}})}}%
\renewcommand*\glsentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}\space
 (\glslongaccessdisplay{\glsentrylong{##1}}{##1}})%
\renewcommand*\Glsentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\Glsentryshort{##1}}}{##1}\space
 (\glslongaccessdisplay{\glsentrylong{##1}}{##1}})%
\renewcommand*\glsentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##1}}}{##1}\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}})%
\renewcommand*\Glsentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\Glsentryshortpl{##1}}}{##1}\space
 (\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}})%
}
\renewacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}

```

```

\renewcommand{\acronymfont}[1]{\textsc{##1}}%
\renewcommand*{\acrpluralsuffix}{\glstextup{\glspluralsuffix}}%
}%
\renewacronymstyle{footnote-sm}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{%
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}}%
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}%
\renewacronymstyle{footnote-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
(\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{footnote-sc-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
\GlsUseAcrStyleDefs{footnote-sc}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
(\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{footnote-sm-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote-sm}%
}%
{%
\GlsUseAcrStyleDefs{footnote-sm}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
(\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
}

```

```

\newcommand*\glsdefaultshortaccess}[2]{#1}
\renewcommand*\newacronymhook{%
 \edef\@gls@keylist{%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 shortpluralaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 \the\glskeylisttok}%
 \expandafter\glskeylisttok\expandafter{\@gls@keylist}%
}
\renewcommand*\DefaultNewAcronymDef{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 description={\the\glslongtok},%
 descriptionaccess=\relax,
 text={\the\glsshorttok},%
 access={\noexpand\@glo@textaccess},%
 sort={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 descriptionplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 first={\noexpand\glslongaccessdisplay
 {\the\glslongtok}{\the\glslabeltok}\space
 (\noexpand\glsshortaccessdisplay
 {\the\glsshorttok}{\the\glslabeltok})},%
 plural={\the\glsshorttok\acrpluralsuffix},%
 firstplural={\noexpand\glslongpluralaccessdisplay
 {\noexpand\@glo@longpl}{\the\glslabeltok}\space
 (\noexpand\glsshortpluralaccessdisplay
 {\noexpand\@glo@shortpl}{\the\glslabeltok})},%
 firstaccess=\relax,
 firstpluralaccess=\relax,
 textaccess={\noexpand\@glo@shortaccess},%
 \the\glskeylisttok
 }%
 }%
 \let\@org@gls@assign@firstpl\gls@assign@firstpl
 \let\@org@gls@assign@plural\gls@assign@plural
 \let\@org@gls@assign@descplural\gls@assign@descplural
 \def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
 }%
 \def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
 }%
 \def\gls@assign@descplural##1##2{%

```



```

 \@gls@expand@field{##1}{descplural}{##2}%
 }%
 \@do@newglossaryentry
 \let\gls@assign@firstpl\@org@gls@assign@firstpl
 \let\gls@assign@plural\@org@gls@assign@plural
 \let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\renewcommand*{\DescriptionFootnoteNewAcronymDef}{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\glsshorttok}},%
 sort={\the\glsshorttok},%
 text={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 access={\noexpand\@glo@textaccess},%
 plural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 symbol={\the\glslongtok},%
 symbolplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 firstpluralaccess=\relax,
 textaccess={\noexpand\@glo@shortaccess},%
 \the\glskeylisttok
 }%
 }%
 \let\@org@gls@assign@firstpl\gls@assign@firstpl
 \let\@org@gls@assign@plural\gls@assign@plural
 \let\@org@gls@assign@symbolplural\gls@assign@symbolplural
 \def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
 }%
 \def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
 }%
 \def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
 }%
 \@do@newglossaryentry
 \let\gls@assign@plural\@org@gls@assign@plural
 \let\gls@assign@firstpl\@org@gls@assign@firstpl
 \let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\renewcommand*{\DescriptionNewAcronymDef}{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%

```

```

type=\acronymtype,%
name={\noexpand
 \acronymformat{\the\glsshorttok}{\the\glslongtok}},%
access={\noexpand\@glo@textaccess},%
sort={\the\glsshorttok},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
first={\the\glslongtok},%
firstaccess=\relax,
firstplural={\the\glslongtok\noexpand\acrpluralsuffix},%
text={\the\glsshorttok},%
textaccess={\the\glslongtok},%
plural={\the\glsshorttok\noexpand\acrpluralsuffix},%
symbol={\noexpand\@glo@text},%
symbolaccess={\noexpand\@glo@textaccess},%
symbolplural={\noexpand\@glo@plural},%
firstpluralaccess=\relax,
textaccess={\noexpand\@glo@shortaccess},%
\the\glskeylisttok}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\@do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\renewcommand*{\FootnoteNewAcronymDef}{%
\edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\glsshorttok}},%
 sort={\the\glsshorttok},%
 text={\the\glsshorttok},%
 textaccess={\the\glslongtok},%
 access={\noexpand\@glo@textaccess},%

```

```

plural={\the\glsshorttok\noexpand\acrpluralsuffix},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\the\glslongtok},%
descriptionplural={\the\glslongtok\noexpand\acrpluralsuffix},%
\the\glskeylisttok
}%
}%
\let\org@gls@assign@plural\gls@assign@plural
\let\org@gls@assign@firstpl\gls@assign@firstpl
\let\org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@plural\org@gls@assign@plural
\let\gls@assign@firstpl\org@gls@assign@firstpl
\let\gls@assign@descplural\org@gls@assign@descplural
}
\renewcommand*\SmallNewAcronymDef{%
\edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\glsshorttok}},%
 access={\noexpand\@glo@symbolaccess},%
 sort={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 text={\noexpand\@glo@short},%
 textaccess={\noexpand\@glo@shortaccess},%
 plural={\noexpand\@glo@shortpl},%
 first={\the\glslongtok},%
 firstaccess=\relax,
 firstplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 description={\noexpand\@glo@first},%
 descriptionplural={\noexpand\@glo@firstplural},%
 symbol={\the\glsshorttok},%
 symbolaccess={\the\glslongtok},%

```

```

 symbolplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@descplural\gls@assign@descplural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@descplural\@org@gls@assign@descplural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\glsshortaccesskey}{\glsshortkey access}%
\newcommand*{\glsshortpluralaccesskey}{\glsshortpluralkey access}%
\newcommand*{\glslongaccesskey}{\glslongkey access}%
\newcommand*{\glslongpluralaccesskey}{\glslongpluralkey access}%
\newcommand*{\showglongnameaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@access\endcsname
}
\newcommand*{\showglongtextaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@textaccess\endcsname
}
\newcommand*{\showglongpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@pluralaccess\endcsname
}
\newcommand*{\showglongfirstaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstaccess\endcsname
}
\newcommand*{\showglongfirstpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstpluralaccess\endcsname
}
\newcommand*{\showglongsymbolaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbolaccess\endcsname
}
\newcommand*{\showglongsymbolpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbolpluralaccess\endcsname
}

```

```

}
\newcommand*{\showglodescaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@descaccess\endcsname
}
\newcommand*{\showglodescpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@descpluralaccess\endcsname
}
\newcommand*{\showgloshortaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@shortaccess\endcsname
}
\newcommand*{\showgloshortpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@shortpluralaccess\endcsname
}
\newcommand*{\showglolongaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@longaccess\endcsname
}
\newcommand*{\showglolongpluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@longpluralaccess\endcsname
}
}

```

### 8.3 Rollback v4.46 (glossaries-babel-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-babel}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 }%
}
}
}

```

## 8.4 Rollback v4.46 (glossaries-compatible-207-2020-03-19.sty)

Version 4.46 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-compatible-207}[2020/03/19 v4.46 (NLCT)]
\ifglxindy
 \renewcommand*\GlsAddXdyAttribute[1]{%
 \edef\xdyattributes{\xdyattributes ^^J \string"#1\string"}%
 \expandafter\toks@\expandafter{\xdylocref}%
 \edef\xdylocref{\the\toks@ ^^J%
 (markup-locref
 :open \string"\string~\n\string\setentrycounter
 {\noexpand\glscounter}%
 \expandafter\string\csname#1\endcsname
 \expandafter@gobble\string\{\string" ^^J
 :close \string"\expandafter@gobble\string\}\string" ^^J
 :attr \string"#1\string")}}
\fi
\renewcommand*\GlsAddXdyCounters[1]{%
 \GlossariesWarning{\string\GlsAddXdyCounters\space not available
 in compatibility mode.}%
}
\GlsAddXdyAttribute{glsnumberformat}
\GlsAddXdyAttribute{textrm}
\GlsAddXdyAttribute{textsf}
\GlsAddXdyAttribute{texttt}
\GlsAddXdyAttribute{textbf}
\GlsAddXdyAttribute{textmd}
\GlsAddXdyAttribute{textit}
\GlsAddXdyAttribute{textup}
\GlsAddXdyAttribute{textsl}
\GlsAddXdyAttribute{textsc}
\GlsAddXdyAttribute{emph}
\GlsAddXdyAttribute{glsnumber}
\GlsAddXdyAttribute{hyperm}
\GlsAddXdyAttribute{hypersf}
\GlsAddXdyAttribute{hypertt}
\GlsAddXdyAttribute{hyperbf}
\GlsAddXdyAttribute{hypermd}
\GlsAddXdyAttribute{hyperit}
\GlsAddXdyAttribute{hyperup}
\GlsAddXdyAttribute{hypersl}
\GlsAddXdyAttribute{hypersc}
\GlsAddXdyAttribute{hyperemph}
\ifglxindy
 \renewcommand*\GlsAddXdyLocation[2]{%
 \edef\xdyuserlocationdefs{%
 \xdyuserlocationdefs ^^J%
 (define-location-class \string"#1\string"^^J\space\space
 \space(#2))
 }

```

```

 }%
 \edef\xdyuserlocationnames{%
 \xdyuserlocationnames^^J\space\space\space
 \string"#1\string"}%
}
\fi
\renewcommand{\do@wrglossary}[1]{%
\ifglxsindy
 \expandafter\@glo@check@mkidxrangechar\@glsnumberformat\@nil
 \def\@glo@range{%
 \expandafter\if\@glo@prefix(\relax
 \def\@glo@range{:open-range}%
 \else
 \expandafter\if\@glo@prefix)\relax
 \def\@glo@range{:close-range}%
 \fi
 \fi
 \protected@edef\@glslocref{\theglentrycounter}%
 \@gls@checkmkidxchars\@glslocref
 \glossary[\csname glo@#1@type\endcsname]{%
 (indexentry :tkey (\csname glo@#1@index\endcsname)
 :locref \string"\@glslocref\string" %
 :attr \string"\@glo@suffix\string" \@glo@range
)
 }%
\else
 \@set@glo@numformat\@glo@numfmt\@gls@counter\@glsnumberformat
 \glossary[\csname glo@#1@type\endcsname]{%
 \string\glossaryentry{\csname glo@#1@index\endcsname
 \@gls@encapchar\@glo@numfmt}{\theglentrycounter}}%
\fi
}
\def\@set@glo@numformat#1#2#3{%
 \expandafter\@glo@check@mkidxrangechar#3\@nil
 \protected@edef#1{%
 \@glo@prefix setentrycounter[]#{#2}%
 \expandafter\string\csname\@glo@suffix\endcsname
 }%
 \@gls@checkmkidxchars#1%
}
\ifglxsindy
\def\writeist{%
 \openout\glswrite=\listfilename
 \write\glswrite{;; xindy style file created by the glossaries
 package in compatible-2.07 mode}%
 \write\glswrite{;; for document '\jobname' on
 \the\year-\the\month-\the\day}%
 \write\glswrite{^^J; required styles^^J}
 \@for\xdstyle:=\xdyrequiredstyles\do{%
 \if\xdstyle\@empty

```

```

\else
 \protected@write\glswrite{}{(require
 \string"\@xdystyle.xdy\string")}%
\fi
}%
\write\glswrite{^^J%
 ; list of allowed attributes (number formats)^^J}%
\write\glswrite{(define-attributes ((\@xdyattributes)))}%
\write\glswrite{^^J; user defined alphabets^^J}%
\write\glswrite{\@xdyuseralphabets}%
\write\glswrite{^^J; location class definitions^^J}%
\protected@edef\@gls@roman{\@roman{0}\string"
 \string"roman-numbers-lowercase\string" :sep \string"}}%
\@onelevel@sanitize\@gls@roman
\edef\@tmp{\string" \string"roman-numbers-lowercase\string"
 :sep \string"}%
\@onelevel@sanitize\@tmp
\ifx\@tmp\@gls@roman
 \write\glswrite{(define-location-class
 \string"roman-page-numbers\string"^^J\space\space\space
 (\string"roman-numbers-lowercase\string")
 :min-range-length \@glsminrange)}%
\else
 \write\glswrite{(define-location-class
 \string"roman-page-numbers\string"^^J\space\space\space
 (:sep "\@gls@roman")
 :min-range-length \@glsminrange)}%
\fi
\write\glswrite{(define-location-class
 \string"Roman-page-numbers\string"^^J\space\space\space
 (\string"roman-numbers-uppercase\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"arabic-page-numbers\string"^^J\space\space\space
 (\string"arabic-numbers\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"alpha-page-numbers\string"^^J\space\space\space
 (\string"alpha\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"Alpha-page-numbers\string"^^J\space\space\space
 (\string"ALPHA\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"Appendix-page-numbers\string"^^J\space\space\space
 (\string"ALPHA\string"
 :sep \string"\@glsAlphacompositor\string"
 \string"arabic-numbers\string")
 :min-range-length \@glsminrange)}%

```



```

\write\glswrite{(define-location-class
 \string"arabic-section-numbers\string"^^J\space\space\space
 (\string"arabic-numbers\string"
 :sep \string"\glscompositor\string"
 \string"arabic-numbers\string")
 :min-range-length \@glsminrange)}}%
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
 :unverified)}%
\write\glswrite{(markup-crossref-list
 :class \string"see\string"^^J\space\space\space
 :open \string"\string\glsseeformat\string"
 :close \string"{}\string")}%
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
 (\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
 :open \string"\string
 \glossarysection[\string\glossarytoctitle]{\string
 \glossarytitle}\string\glossarypreamble\string~n\string\begin
 {theglossary}\string\glossaryheader\string~n\string" ^^J\space
 \space\space:close \string"\expandafter@gobble
 \string~%\string~n\string
 \end{theglossary}\string\glossarypostamble
 \string~n\string" ^^J\space\space\space
 :tree)}}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\string~n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \string~n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\glsclosebrace\string")}%
\write\glswrite{(markup-locref-list
 :sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
 :sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffixF
\@onelevel@sanitize\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffixF" :length 1 :ignore-end)}%
\fi

```

```

\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{(markup-range
:close "\gls@suffixFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
:sep \string\string\glsgroupskip\string~n\string)}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
:open-head \string\string\glsgroupheading
\glsopenbrace\string^^J\space\space\space
:close-head \string\glsclosebrace\string)}%
\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{\@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}%
\write\glswrite{\@xdysortrules}%
\noist}
\else
\edef\gls@actualchar{\string?}
\edef\gls@encapchar{\string|}
\edef\gls@levelchar{\string!}
\edef\gls@quotechar{\string"}
\def\writeist{\relax
\openout\glswrite=\istfilename
\write\glswrite{\expandafter\@gobble\string\% makeindex style file
created by the glossaries package}
\write\glswrite{\expandafter\@gobble\string\% for document
'\jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '\gls@actualchar'}
\write\glswrite{encap '\gls@encapchar'}
\write\glswrite{level '\gls@levelchar'}
\write\glswrite{quote '\gls@quotechar'}
\write\glswrite{keyword \string\string\glossaryentry\string"}
\write\glswrite{preamble \string\string\glossarysection[\string
\glossarytoctitle]{\string\glossarytitle}\string
\glossarypreamble\string\n\string\begin{theglossary}\string
\glossaryheader\string\n\string"}
\write\glswrite{postamble \string\string\string\n\string
\end{theglossary}\string\glossarypostamble\string\n
\string"}
\write\glswrite{group_skip \string\string\glsgroupskip\string\n
\string"}
\write\glswrite{item_0 \string\string\string\n\string"}
\write\glswrite{item_1 \string\string\string\n\string"}
\write\glswrite{item_2 \string\string\string\n\string"}
\write\glswrite{item_01 \string\string\string\n\string"}
\write\glswrite{item_x1

```

```

\string\string\relax \string\glsresetentrylist\string\n
\string}
\write\glswrite{item_12 \string\string\%\string\n\string}
\write\glswrite{item_x2
\string\string\relax \string\glsresetentrylist\string\n
\string}
\write\glswrite{delim_0 \string\string\{\string
\glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_1 \string\string\{\string
\glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_2 \string\string\{\string
\glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_t \string\string\}\string}\string}
\write\glswrite{delim_n \string\string\delimN \string}
\write\glswrite{delim_r \string\string\delimR \string}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
\string\string\glsgroupheading\string\{\string}
\write\glswrite{heading_suffix
\string\string\}\string\relax
\string\glsresetentrylist \string}
\write\glswrite{symhead_positive \string"glssymbols\string}
\write\glswrite{numhead_positive \string"glnumbers\string}
\write\glswrite{page_compositor \string"glscpositor\string}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
\write\glswrite{suffix_2p \string"\gls@suffixF\string}
\fi
\ifx\gls@suffixFF\@empty
\else
\write\glswrite{suffix_3p \string"\gls@suffixFF\string}
\fi
\noist
}
\fi
\renewcommand*{\noist}{\let\writeist\relax}

```

## 8.5 Rollback v4.46 (glossaries-compatible-307-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-compatible-307}[2020/03/19 v4.46 (NLCT)]
\newcommand{\compatglossarystyle}[2]{%
\ifcsundef{@glscompstyle@#1}%
{%
\csdef{@glscompstyle@#1}{#2}%
}%
}

```

```

 {%
 \PackageError{glossaries}{Glossary compatibility style ‘#1’ is already defined}{}%
 }%
 }
\compatglossarystyle{inline}{%
 \renewcommand{\glossaryentryfield}[5]{%
 \glsinlinedopostchild
 \gls@inlinesep
 \def\glo@desc{##3}%
 \def\@no@post@desc{\nopostdesc}%
 \glsentryitem{##1}\glsinlinenameformat{##1}{##2}%
 \ifx\glo@desc\@no@post@desc
 \glsinlineemptydescformat{##4}{##5}%
 \else
 \ifstrempy{##3}%
 {\glsinlineemptydescformat{##4}{##5}}%
 {\glsinlinedescformat{##3}{##4}{##5}}%
 \fi
 \ifglshaschildren{##1}%
 {%
 \glsresetsubentrycounter
 \glsinlineparentchildseparator
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{\glsinlinepostchild}%
 }%
 {}%
 \def\gls@inlinesep{\glsinlineseparator}%
 }%
 \renewcommand{\glossarysubentryfield}[6]{%
 \gls@inlinesubsep%
 \glsinlinesubnameformat{##2}{##3}%
 \glssubentryitem{##2}\glsinlinesubdescformat{##4}{##5}{##6}%
 \def\gls@inlinesubsep{\glsinlinesubseparator}%
 }%
}
\compatglossarystyle{list}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[\glsentryitem{##1}\glstarget{##1}{##2}]
 ##3\glspostdescription\space ##5}%
 \renewcommand*\glossarysubentryfield}[6]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6.}%
}
\compatglossarystyle{listgroup}{%
 \csuse{@glscompstyle@list}%
}%
\compatglossarystyle{listhypergroup}{%
 \csuse{@glscompstyle@list}%
}%
\compatglossarystyle{altlist}{%

```

```

\renewcommand*\glossaryentryfield}[5]{%
 \item[\glstentryitem{##1}\glstarget{##1}{##2}]%
 \mbox{}\par\nobreak\@afterheading
 ##3\glspostdescription\space ##5}%
\renewcommand*\glossarysubentryfield}[6]{%
 \par
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6}%
}%
\compatglossarystyle{altlistgroup}{%
 \csuse{@glscompstyle@altlist}%
}%
\compatglossarystyle{altlisthypergroup}{%
 \csuse{@glscompstyle@altlist}%
}%
\compatglossarystyle{listdotted}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glstentryitem{##1}\glstarget{##1}{##2}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}##3}%
 \renewcommand*\glossarysubentryfield}[6]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{##3}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}##4}%
 }%
\compatglossarystyle{sublistdotted}{%
 \csuse{@glscompstyle@listdotted}%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[\glstentryitem{##1}\glstarget{##1}{##2}]}%
}%
\compatglossarystyle{long}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glstentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5\\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6\\}%
 }%
\compatglossarystyle{longborder}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{longheader}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{longheaderborder}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{long3col}{%
 \renewcommand*\glossaryentryfield}[5]{%

```

```

\glsentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\\}%
\renewcommand*{\glossarysubentryfield}[6]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}##4 & ##6\\}%
}%
\compatglossarystyle{long3colborder}{%
\csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long3colheader}{%
\csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long3colheaderborder}{%
\csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long4col}{%
\renewcommand*{\glossaryentryfield}[5]{%
\glsentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\\}%
\renewcommand*{\glossarysubentryfield}[6]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}##4 & ##5 & ##6\\}%
}%
\compatglossarystyle{long4colheader}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{long4colborder}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{long4colheaderborder}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4col}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4colheader}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4colborder}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4colheaderborder}{%
\csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{longragged}{%
\renewcommand*{\glossaryentryfield}[5]{%
\glsentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5%
\tabularnewline}%
\renewcommand*{\glossarysubentryfield}[6]{%
&

```

```

 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6%
 \tabularnewline}%
}%
\compatglossarystyle{longraggedborder}{%
 \csuse{@glscmpstyle@longragged}%
}%
\compatglossarystyle{longraggedheader}{%
 \csuse{@glscmpstyle@longragged}%
}%
\compatglossarystyle{longraggedheaderborder}{%
 \csuse{@glscmpstyle@longragged}%
}%
\compatglossarystyle{longragged3col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glssubentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\tabularnewline}%
}%
\compatglossarystyle{longragged3colborder}{%
 \csuse{@glscmpstyle@longragged3col}%
}%
\compatglossarystyle{longragged3colheader}{%
 \csuse{@glscmpstyle@longragged3col}%
}%
\compatglossarystyle{longragged3colheaderborder}{%
 \csuse{@glscmpstyle@longragged3col}%
}%
\compatglossarystyle{altlongragged4col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glssubentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\tabularnewline}%
}%
\compatglossarystyle{altlongragged4colheader}{%
 \csuse{@glscmpstyle@altlong4col}%
}%
\compatglossarystyle{altlongragged4colborder}{%
 \csuse{@glscmpstyle@altlong4col}%
}%
\compatglossarystyle{altlongragged4colheaderborder}{%
 \csuse{@glscmpstyle@altlong4col}%
}%
\compatglossarystyle{index}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \item\glssubentryitem{##1}\textbf{\glstarget{##1}{##2}}%

```

```

\ifx\relax##4\relax
\else
\space{##4}%
\fi
\space ##3\glspostdescription \space ##5}%
\renewcommand*\glossarysubentryfield}[6]{%
\ifcase##1\relax
% level 0
\item
\or
% level 1
\subitem
\glssubentryitem{##2}%
\else
% all other levels
\subsubitem
\fi
\textbf{\glstarget{##2}{##3}}%
\ifx\relax##5\relax
\else
\space{##5}%
\fi
\space##4\glspostdescription\space ##6}%
}%
\compatglossarystyle{indexgroup}{%
\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{indexhypergroup}{%
\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{tree}{%
\renewcommand{\glossaryentryfield}[5]{%
\hangindent0pt\relax
\parindent0pt\relax
\glssentryitem{##1}\textbf{\glstarget{##1}{##2}}%
\ifx\relax##4\relax
\else
\space{##4}%
\fi
\space ##3\glspostdescription \space ##5\par}%
\renewcommand{\glossarysubentryfield}[6]{%
\hangindent##1\glstreeindent\relax
\parindent##1\glstreeindent\relax
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\textbf{\glstarget{##2}{##3}}%
\ifx\relax##5\relax
\else
\space{##5}%

```



```

\fi
\space##4\glspostdescription\space ##6\par}%
}%
\compatglossarystyle{treegroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{treehypergroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{treenoname}{%
\renewcommand{\glossaryentryfield}[5]{%
\hangindent0pt\relax
\parindent0pt\relax
\glstentryitem{##1}\textbf{\glstarget{##1}{##2}}%
\ifx\relax##4\relax
\else
\space(##4)%
\fi
\space ##3\glspostdescription \space ##5\par}%
\renewcommand{\glossarysubentryfield}[6]{%
\hangindent##1\glstreeindent\relax
\parindent##1\glstreeindent\relax
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\glstarget{##2}{\strut}%
##4\glspostdescription\space ##6\par}%
}%
\compatglossarystyle{treenonamegroup}{%
\csuse{@glscompstyle@treenoname}%
}%
\compatglossarystyle{treenonamehypergroup}{%
\csuse{@glscompstyle@treenoname}%
}%
\compatglossarystyle{almtree}{%
\renewcommand{\glossaryentryfield}[5]{%
\ifnum\@gls@prevlevel=0\relax
\else
\settothewidth{\glstreeindent}{\textbf{\@glswidestname\space}}%
\hangindent\glstreeindent
\parindent\glstreeindent
\fi
\makebox[Opt][r]{\makebox[\glstreeindent][l]{%
\glstentryitem{##1}\textbf{\glstarget{##1}{##2}}}}%
\ifx\relax##4\relax
\else
(##4)\space
\fi
##3\glspostdescription \space ##5\par
\def\@gls@prevlevel{0}%

```

```

}%
\renewcommand{\glossarysubentryfield}[6]{%
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \ifnum\@gls@prevlevel=##1\relax
 \else
 \@ifundefined{@glswidestname\romannumeral##1}{%
 \settowidth{\gls@tmplen}{\textbf{\@glswidestname\space}}{%
 \settowidth{\gls@tmplen}{\textbf{%
 \csname @glswidestname\romannumeral##1\endcsname\space}}}%
 \ifnum\@gls@prevlevel<##1\relax
 \setlength\glstreeindent\gls@tmplen
 \addtolength\glstreeindent\parindent
 \parindent\glstreeindent
 \else
 \@ifundefined{@glswidestname\romannumeral\@gls@prevlevel}{%
 \settowidth{\glstreeindent}{\textbf{%
 \@glswidestname\space}}{%
 \settowidth{\glstreeindent}{\textbf{%
 \csname @glswidestname\romannumeral\@gls@prevlevel
 \endcsname\space}}}%
 \addtolength\parindent{-\glstreeindent}%
 \setlength\glstreeindent\parindent
 \fi
 \fi
 \hangindent\glstreeindent
 \makebox[0pt][r]{\makebox[\gls@tmplen][l]{%
 \textbf{\glstarget{##2}{##3}}}%
 \ifx##5\relax\relax
 \else
 (##5)\space
 \fi
 ##4\glspostdescription\space ##6\par
 \def\@gls@prevlevel{##1}%
 }%
 }%
}%
\compatglossarystyle{almtreegroup}{%
 \csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{almtreehypergroup}{%
 \csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolindex}{%
 \csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcolindexgroup}{%
 \csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcolindexhypergroup}{%

```

```

\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcoltree}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolindextreegroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolindextreehypergroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreenoname}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreenonamegroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreenonamehypergroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolalmtree}{%
\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolalmtreegroup}{%
\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolalmtreehypergroup}{%
\csuse{@glscompstyle@almtree}%
}%
}%
\compatglossarystyle{superragged}{%
\renewcommand*{\glossaryentryfield}[5]{%
\glsentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5%
\tabularnewline}%
\renewcommand*{\glossarysubentryfield}[6]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}##4\glspostdescription\space ##6%
\tabularnewline}%
}%
\compatglossarystyle{superraggedborder}{%
\csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superraggedheader}{%
\csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superraggedheaderborder}{%
\csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superragged3col}{%

```

```

\renewcommand*\glossaryentryfield}[5]{%
 \glsentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\tabularnewline}%
\renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\tabularnewline}%
}%
\compatglossarystyle{superragged3colborder}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{superragged3colheader}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{superragged3colheaderborder}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{altsuperragged4col}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glsentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\tabularnewline}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\tabularnewline}%
}%
\compatglossarystyle{altsuperragged4colheader}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{altsuperragged4colborder}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{altsuperragged4colheaderborder}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{super}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glsentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5\\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6\\}%
}%
\compatglossarystyle{superborder}{%
 \csuse{@glscompstyle@super}%
}%
\compatglossarystyle{superheader}{%
 \csuse{@glscompstyle@super}%
}%
\compatglossarystyle{superheaderborder}{%
 \csuse{@glscompstyle@super}%
}%

```

```

\compatglossarystyle{super3col}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\\}%
}%
\compatglossarystyle{super3colborder}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super3colheader}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super3colheaderborder}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super4col}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\\}%
}%
\compatglossarystyle{super4colheader}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{super4colborder}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{super4colheaderborder}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4col}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colheader}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colborder}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colheaderborder}{%
 \csuse{@glscompstyle@super4col}%
}%

```

## 8.6 Rollback v4.46 (glossaries-polyglossia-2020-03-19.sty)

Version 4.46 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-polyglossia}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 {%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for ‘\this@dialect’.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 ‘glossaries-\CurrentTrackedLanguage’ or similar}%
 }%
 }%
}%
}
```

## 8.7 Rollback v4.46 (glossaries-prefix-2020-03-19.sty)

Version 4.46 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-prefix}[2020/03/19 v4.46 (NLCT)]
\DeclareOption*{\PassOptionsToPackage{\CurrentOption}{glossaries}}
\ProcessOptions
\RequirePackage{glossaries}[v4.46]
\define@key{glossentry}{prefixfirst}{\def\@glo@entryprefixfirst{#1}}%
\define@key{glossentry}{prefixfirstplural}{\def\@glo@entryprefixfirstplural{#1}}%
\define@key{glossentry}{prefix}{\def\@glo@entryprefix{#1}}%
\define@key{glossentry}{prefixplural}{\def\@glo@entryprefixplural{#1}}%
\appto\@gls@keymap{,%
 {prefixfirst}{prefixfirst},%
 {prefixfirstplural}{prefixfirstplural},%
 {prefix}{prefix},%
 {prefixplural}{prefixplural}}%
}
\appto\@newglossaryentryprehook{%
 \def\@glo@entryprefix{}%
 \def\@glo@entryprefixplural{}%
 \let\@glo@entryprefixfirst\@gls@default@value
```

```

\let\@glo@entryprefixfirstplural\@gls@default@value
}
\appto\@newglossaryentryposthook{%
\gls@assign@field{}\@glo@label}{prefix}\@glo@entryprefix}%
\gls@assign@field{}\@glo@label}{prefixplural}\@glo@entryprefixplural}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @prefix\endcsname}\@glo@label}{prefixfirst}%
 {\@glo@entryprefixfirst}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @prefixplural\endcsname}\@glo@label}%
 {prefixfirstplural}\@glo@entryprefixfirstplural}%
}
\newcommand*\@glsentryprefixfirst}[1]{\csuse{glo@\glsdetoklabel{#1}@prefixfirst}}
\newcommand*\@glsentryprefixfirstplural}[1]{%
\csuse{glo@\glsdetoklabel{#1}@prefixfirstplural}}
\newcommand*\@glsentryprefix}[1]{\csuse{glo@\glsdetoklabel{#1}@prefix}}
\newcommand*\@glsentryprefixplural}[1]{\csuse{glo@\glsdetoklabel{#1}@prefixplural}}
\newrobustcmd*\@Glsentryprefixfirst}[1]{%
\protected@edef\@glo@text{\csname glo@\glsdetoklabel{#1}@prefixfirst\endcsname}%
\xmakefirstuc\@glo@text
}
\newrobustcmd*\@Glsentryprefixfirstplural}[1]{%
\protected@edef\@glo@text{\csname glo@\glsdetoklabel{#1}@prefixfirstplural\endcsname}%
\xmakefirstuc\@glo@text
}
\newrobustcmd*\@Glsentryprefix}[1]{%
\protected@edef\@glo@text{\csname glo@\glsdetoklabel{#1}@prefix\endcsname}%
\xmakefirstuc\@glo@text
}
\newrobustcmd*\@Glsentryprefixplural}[1]{%
\protected@edef\@glo@text{\csname glo@\glsdetoklabel{#1}@prefixplural\endcsname}%
\xmakefirstuc\@glo@text
}
\newcommand*\@ifglshasprefix}[3]{%
\ifcsemtyp{glo@\glsdetoklabel{#1}@prefix}%
{#3}%
{#2}%
}
\newcommand*\@ifglshasprefixplural}[3]{%
\ifcsemtyp{glo@\glsdetoklabel{#1}@prefixplural}%
{#3}%
{#2}%
}
\newcommand*\@ifglshasprefixfirst}[3]{%
\ifcsemtyp{glo@\glsdetoklabel{#1}@prefixfirst}%
{#3}%
{#2}%
}
\newcommand*\@ifglshasprefixfirstplural}[3]{%
\ifcsemtyp{glo@\glsdetoklabel{#1}@prefixfirstplural}%

```

```

 {#3}%
 {#2}%
}
\providecommand{\@glsprefix@record@hook}[2]{%
 \ifdef\@glsxtr@record
 {\@glsxtr@record{#1}{#2}{glslink}}%
 }%
}
\newcommand{\glsprefixsep}{-}
\newrobustcmd{\pgls}{\@gls@hyp@opt\@pgls}
\newcommand*{\@pgls}[2][{}]{%
 \new@ifnextchar[%
 {\@pgls@{#1}{#2}}%
 {\@pgls@{#1}{#2}[{}]}%
}
\def\@pgls@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglschasprefix{#2}{\glsentryprefix{#2}\glsprefixsep}{-}%
 }%
 {%
 \ifglschasprefixfirst{#2}{\glsentryprefixfirst{#2}\glsprefixsep}{-}%
 }%
 \@gls@{#1}{#2}[#3]%
 }%
}
\newrobustcmd{\pglsp1}{\@gls@hyp@opt\@pglsp1}
\newcommand*{\@pglsp1}[2][{}]{%
 \new@ifnextchar[%
 {\@pglsp1@{#1}{#2}}%
 {\@pglsp1@{#1}{#2}[{}]}%
}
\def\@pglsp1@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglschasprefixplural{#2}{\glsentryprefixplural{#2}\glsprefixsep}{-}%
 }%
 {%
 \ifglschasprefixfirstplural{#2}%
 {\glsentryprefixfirstplural{#2}\glsprefixsep}{-}%
 }%
 \@glspl@{#1}{#2}[#3]%
 }%
}
}

```



```

\newrobustcmd{\Pgl}{\@gls@hyp@opt\Pgl}
\newcommand*{\@Pgl}[2][\%
 \new@ifnextchar[\%
 {\@Pgl@{#1}{#2}}{\%
 {\@Pgl@{#1}{#2}[]}\%
}
\def\@Pgl@#1#2[#3]{\%
 \@glsprefix@record@hook{#1}{#2}\%
 \glsdoifexists{#2}\%
 {\%
 \ifglsused{#2}\%
 {\%
 \ifglshasprefix{#2}\%
 {\%
 \Glsentryprefix{#2}\%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]\%
 }%
 {\@Gls@{#1}{#2}[#3]}\%
 }%
 }%
 {\%
 \ifglshasprefixfirst{#2}\%
 {\%
 \Glsentryprefixfirst{#2}\%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]\%
 }%
 {\@Gls@{#1}{#2}[#3]}\%
 }%
 }%
}
\newrobustcmd{\Pglsp}{\@gls@hyp@opt\Pglsp}
\newcommand*{\@Pglsp}[2][\%
 \new@ifnextchar[\%
 {\@Pglsp@{#1}{#2}}{\%
 {\@Pglsp@{#1}{#2}[]}\%
}
\def\@Pglsp@#1#2[#3]{\%
 \@glsprefix@record@hook{#1}{#2}\%
 \glsdoifexists{#2}\%
 {\%
 \ifglsused{#2}\%
 {\%
 \ifglshasprefixplural{#2}\%
 {\%
 \Glsentryprefixplural{#2}\%
 \glsprefixsep
 \@glspl@{#1}{#2}[#3]\%
 }%
 {\@Glspl@{#1}{#2}[#3]}\%
 }%
 }%
}

```

```

}%
{%
 \ifglshasprefixfirstplural{#2}%
 {%
 \glstentryprefixfirstplural{#2}%
 \glsprefixsep
 \@glsp1@{#1}{#2}[#3]%
 }%
 {\@Glsp1@{#1}{#2}[#3]}%
}%
}%
}
\newrobustcmd{\PGLS}{\@gls@hyp@opt\PGLS}
\newcommand*{\@PGLS}[2][]{%
 \new@ifnextchar [%
 {\@PGLS@{#1}{#2}}%
 {\@PGLS@{#1}{#2} []}%
 }
}
\def\@PGLS@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglused{#2}%
 {%
 \ifglshasprefix{#2}%
 {\mfirstucMakeUppercase{\glstentryprefix{#2}\glsprefixsep}}{%
 }%
 {%
 \ifglshasprefixfirst{#2}%
 {\mfirstucMakeUppercase{\glstentryprefixfirst{#2}\glsprefixsep}}{%
 }%
 \@GLS@{#1}{#2}[#3]%
 }%
}
}
\newrobustcmd{\PGLSp1}{\@gls@hyp@opt\PGLSp1}
\newcommand*{\@PGLSp1}[2][]{%
 \new@ifnextchar [%
 {\@PGLSp1@{#1}{#2}}%
 {\@PGLSp1@{#1}{#2} []}%
 }
}
\def\@PGLSp1@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglused{#2}%
 {%
 \ifglshasprefixplural{#2}%
 {\mfirstucMakeUppercase{\glstentryprefixplural{#2}\glsprefixsep}}{%
 }%
 {%

```

```

 \ifglshasprefixfirstplural{#2}%
 {\mfirstucMakeUppercase{\glsentryprefixfirstplural{#2}\glsprefixsep}}{}%
 }%
 \@GLSpl@{#1}{#2}{#3}%
} %
}

```

## 8.8 Rollback v4.46 (glossary-hypernav-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-hypernav}[2020/03/19 v4.46 (NLCT)]
\newcommand*{\glsnavhyperlink}[3][\@glo@type]{%
 \edef\gls@grplabel{#2}\protected@edef\gls@grptitle{#3}%
 \glslink{\glsnavhyperlinkname{#1}{#2}}{#3}}
\newcommand*{\glsnavhyperlinkname}[2]{\glsn:#1@#2}
\newcommand*{\glsnavhypertarget}[3][\@glo@type]{%
 \@glsnavhypertarget{#1}{#2}{#3}%
}
\newcommand*{\@glsnavhypertarget}[3]{%
 \protected@write\@auxout{}{\string\@gls@hypergroup{#1}{#2}}%
 \@glstarget{\glsnavhyperlinkname{#1}{#2}}{#3}%
 \expandafter\let
 \expandafter\@gls@list\csname @gls@hypergroup@list@#1\endcsname
 \@for\@gls@elem:=\@gls@list\do{%
 \ifthenelse{\equal{\@gls@elem}{#2}}{\@endfortrue}{}%
 }
 \if@endfor
 \else
 \GlossariesWarningNoLine{Navigation panel
 for glossary type ‘#1’^^Jmissing group ‘#2’}%
 \gdef\gls@hypergroup@prerun{%
 \GlossariesWarningNoLine{Navigation panel
 has changed. Rerun LaTeX}}%
 \fi
}
\let\gls@hypergroup@prerun\relax
\AtEndDocument{\gls@hypergroup@prerun}
\newcommand*{\@gls@hypergroup}[2]{%
 \@ifundefined{@gls@hypergroup@list@#1}{%
 \expandafter\xdef\csname @gls@hypergroup@list@#1\endcsname{#2}%
 }{%
 \expandafter\let\expandafter\@gls@tmp
 \csname @gls@hypergroup@list@#1\endcsname
 \expandafter\xdef\csname @gls@hypergroup@list@#1\endcsname{%
 \@gls@tmp,#2}%
 }%
}
\newcommand*{\glsnavigation}{%
 \def\@gls@between{}%
 \ifcsundef{@gls@hypergroup@list@\@glo@type}%

```

```

{%
 \def\@gls@list{}%
}%
{%
 \expandafter\let\expandafter\@gls@list
 \csname @gls@hypergroup\list@\@glo@type\endcsname
}%
\@for\@gls@tmp:=\@gls@list\do{%
 \@gls@between
 \@gls@getgrouptitle{\@gls@tmp}{\@gls@grptitle}%
 \glsnavhyperlink{\@gls@tmp}{\@gls@grptitle}%
 \let\@gls@between\glshypernavsep
}%
}
\newcommand*\glshypernavsep{\space\textbar\space}
\newcommand*\glsymbolnav{%
 \glsnavhyperlink{glsymbols}{\glsgetgrouptitle{glsymbols}}%
 \glshypernavsep
 \glsnavhyperlink{glsnumbers}{\glsgetgrouptitle{glsnumbers}}%
 \glshypernavsep
}

```

## 8.9 Rollback v4.46 (glossary-inline-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-inline}[2020/03/19 v4.46 (NLCT)]
\newglossarystyle{inline}{%
 \renewenvironment{theglossary}%
 {%
 \def\@gls@inlinesep{}%
 \def\@gls@inlinesubsep{}%
 \def\@gls@inlinepostchild{}%
 }%
 {\glspostinline}%
\renewcommand*\glossaryheader{}%
\renewcommand*\glsgroupheading[1]{%
\renewcommand*\glossentry[2]{%
 \glsinlinedopostchild
 \gls@inlinesep
 \glsentryitem{##1}%
 \glsinlinenameformat{##1}%
 \glossentryname{##1}%
}%
\ifglsdescsuppressed{##1}%
{%
 \glsinlineemptydescformat
 {%
 \glossentrysymbol{##1}%
 }%
}
}

```

```

 {%
 ##2%
 }%
 }%
 {%
 \ifglshasdesc{##1}%
 {\glsinlinedescformat{\glossentrydesc{##1}}{\glossentrysymbol{##1}}{##2}}%
 {\glsinlineemptydescformat{\glossentrysymbol{##1}}{##2}}%
 }%
 \ifglshaschildren{##1}%
 {%
 \glsresetsubentrycounter
 \glsinlineparentchildseparator
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{\glsinlinepostchild}%
 }%
 {}%
 \def\gls@inlinesep{\glsinlineseparator}%
}%
\renewcommand{\subglossentry}[3]{%
 \gls@inlinesubsep%
 \glsinlinesubnameformat{##2}{%
 \glossentryname{##2}}%
 \glsesubentryitem{##2}%
 \glsinlinesubdescformat{\glossentrydesc{##2}}{\glossentrysymbol{##2}}{##3}%
 \def\gls@inlinesubsep{\glsinlinesubseparator}%
}%
\renewcommand*{\glsgroupskip}{}%
}
\newcommand*{\glsinlinedopostchild}{%
 \gls@inlinepostchild
 \def\gls@inlinepostchild{}%
}
\newcommand*{\glsinlineseparator}{;\space}
\newcommand*{\glsinlinesubseparator}{,\space}
\newcommand*{\glsinlineparentchildseparator}{:\space}
\newcommand*{\glsinlinepostchild}{}
\newcommand*{\glspostinline}{\glspostdescription\space}
\newcommand*{\glsinlinenameformat}[2]{\glstarget{#1}{#2}}
\newcommand*{\glsinlinedescformat}[3]{\space#1}
\newcommand*{\glsinlineemptydescformat}[2]{}
\newcommand*{\glsinlinesubnameformat}[2]{\glstarget{#1}{}}
\newcommand*{\glsinlinesubdescformat}[3]{#1}

```

## 8.10 Rollback v4.46 (glossary-list-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-list}[2020/03/19 v4.46 (NLCT)]
\providecommand{\indexspace}{%

```

```

\par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*\glslistgroupheaderfmt}[1]{#1}
\newcommand*\glslistnavigationitem}[1]{\item[#1]}
\newglossarystyle{list}{%
 \renewenvironment{theglossary}%
 {\begin{description}}{\end{description}}%
 \renewcommand*\glossaryheader{}%
 \renewcommand*\glsgroupheading}[1]{}%
 \renewcommand*\glossentry}[2]{%
 \item[\glsentryitem{##1}]%
 \glstarget{##1}{\glossentryname{##1}}%
 \glossentrydesc{##1}\glspostdescription\space ##2}%
 \renewcommand*\subglossentry}[3]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\space
 \glossentrydesc{##2}\glspostdescription\space ##3.}%
 \renewcommand*\glsgroupskip{\ifglsnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{listgroup}{%
 \setglossarystyle{list}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
\newglossarystyle{listhypergroup}{%
 \setglossarystyle{list}%
 \renewcommand*\glossaryheader{%
 \glslistnavigationitem{\glsnavigation}}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}]}]}
\newglossarystyle{altlist}{%
 \setglossarystyle{list}%
 \renewcommand*\glossentry}[2]{%
 \item[\glsentryitem{##1}]%
 \glstarget{##1}{\glossentryname{##1}}%
 \mbox{}\par\nobreak\@afterheading
 \glossentrydesc{##1}\glspostdescription\space ##2}%
 \renewcommand*\subglossentry}[3]{%
 \par
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space ##3}%
}
\newglossarystyle{altlistgroup}{%
 \setglossarystyle{altlist}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
\newglossarystyle{altlisthypergroup}{%
 \setglossarystyle{altlist}%
 \renewcommand*\glossaryheader{%
 \glslistnavigationitem{\glsnavigation}}%
}

```

```

\renewcommand*{\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}]%
\newglossarystyle{listdotted}{%
 \setglossarystyle{list}%
 \renewcommand*{\glossentry}[2]{%
 \item[]\makebox[\glslistdottedwidth][1]{%
 \glstarget{##1}{\glossentryname{##1}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut\glossentrydesc{##1}}%
 \renewcommand*{\subglossentry}[3]{%
 \item[]\makebox[\glslistdottedwidth][1]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\glossentryname{##2}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut\glossentrydesc{##2}}%
 }
\newlength\glslistdottedwidth
\setlength{\glslistdottedwidth}{.5\hspace}
\newglossarystyle{sublistdotted}{%
 \setglossarystyle{listdotted}%
 \renewcommand*{\glossentry}[2]{%
 \item[\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}}]}%
}

```

## 8.11 Rollback v4.46 (glossary-list-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-long}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{longtable}
\@ifundefined{glsdescwidth}{%
 \newlength\glsdescwidth
 \setlength{\glsdescwidth}{0.6\hspace}
}{%}
\@ifundefined{glspagelistwidth}{%
 \newlength\glspagelistwidth
 \setlength{\glspagelistwidth}{0.1\hspace}
}{%}
\newglossarystyle{long}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}[lp{\glsdescwidth}]}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{%}
 \renewcommand*{\glsgroupheading}[1]{%}
 \renewcommand*{\glossentry}[2]{%
 \glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
 }%
 \renewcommand*{\subglossentry}[3]{%
 &

```

```

 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*\{glsgroupskip}{}%
 \else
 \renewcommand*\{glsgroupskip}{ & \tabularnewline}%
 \fi
}
\newglossarystyle{longborder}{%
 \setglossarystyle{long}%
 \renewenvironment{theglossary}{%
 \begin{longtable}{|l|p{\glstdescwidth}|}{\end{longtable}}%
 \renewcommand*\{glossaryheader}{\hline\endhead\hline\endfoot}%
 }
 \newglossarystyle{longheader}{%
 \setglossarystyle{long}%
 \renewcommand*\{glossaryheader}{%
 \bfseries \entryname & \bfseries \descriptionname\tabularnewline\endhead}%
 }
 \newglossarystyle{longheaderborder}{%
 \setglossarystyle{longborder}%
 \renewcommand*\{glossaryheader}{%
 \hline\bfseries \entryname & \bfseries
 \descriptionname\tabularnewline\hline
 \endhead
 \hline\endfoot}%
 }
 \newglossarystyle{long3col}{%
 \renewenvironment{theglossary}{%
 \begin{longtable}{|lp{\glstdescwidth}p{\glspagelistwidth}|}{%
 \end{longtable}}%
 \renewcommand*\{glossaryheader}{}%
 \renewcommand*\{glsgroupeheading}[1]{}%
 \renewcommand*\{glossentry}[2]{%
 \glssubentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
 }%
 \renewcommand*\{subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*\{glsgroupskip}{}%
 \else
 \renewcommand*\{glsgroupskip}{ & & \tabularnewline}%
 \fi

```



```

}
\newglossarystyle{long3colborder}{%
 \setglossarystyle{long3col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{long3colheader}{%
 \setglossarystyle{long3col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{long3colheaderborder}{%
 \setglossarystyle{long3colborder}%
 \renewcommand*{\glossaryheader}{%
 \hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
}
\newglossarystyle{long4col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}{l|l|l|l}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} &
 ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{long4colheader}{%
 \setglossarystyle{long4col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&

```

```

 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{long4colborder}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{long4colheaderborder}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
\newglossarystyle{altlong4col}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colheader}{%
 \setglossarystyle{long4colheader}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colborder}{%
 \setglossarystyle{long4colborder}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colheaderborder}{%
 \setglossarystyle{long4colheaderborder}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}}%
 {\end{longtable}}%
}
}

```

## 8.12 Rollback v4.46 (glossary-longbooktabs-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-longbooktabs}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{booktabs}
\RequirePackage{glossary-long}[=v4.46]
\RequirePackage{glossary-longragged}[=v4.46]
\newglossarystyle{long-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long}%
 \renewcommand*{\glossaryheader}{%
 \toprule \bfseries \entryname & \bfseries
 \descriptionname\tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
 \fi
}
\newglossarystyle{long3col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long3col}%
 \renewcommand*{\glossaryheader}{%
 \toprule \bfseries \entryname &
 \bfseries \descriptionname &
 \bfseries \pagelistname
 \tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
 \fi
}
\newglossarystyle{long4col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long4col}%
 \renewcommand*{\glossaryheader}{%
 \toprule \bfseries \entryname &
 \bfseries \descriptionname &
 \bfseries \symbolname &
 \bfseries \pagelistname
 \tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
 \fi
}
\newglossarystyle{altlong4col-booktabs}{%
 \glspatchLToutput

```

```

\setglossarystyle{long4col-booktabs}%
\renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{longragged-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{longragged3col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long3col-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{altlongragged4col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{altlong4col-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newcommand*{\glsLTpenaltycheck}{%
 \ifnum\outputpenalty=-50\vskip-\normalbaselineskip\relax\fi
}
\newcommand{\glspenaltygroupskip}{%
 \noalign{\penalty-50\vskip\normalbaselineskip}}
\let\@gls@org@LT@output\LT@output
\newcommand*{\glsrestoreLToutput}{\let\LT@output\@gls@org@LT@output}
\newcommand*{\glspatchLToutput}{%
 \renewcommand*{\LT@output}{%
 \ifnum\outputpenalty <-\@Mi
 \ifnum\outputpenalty > -\LT@end@pen
 \LT@err{floats and marginpars not allowed in a longtable}\@ehc
 \else
 \setbox\z@\vbox{\unvbox\@cclv}%
 \ifdim \ht\LT@lastfoot>\ht\LT@foot
 \dimen@pagegoal
 \advance\dimen@-\ht\LT@lastfoot
 \ifdim\dimen@<\ht\z@
 \setbox\@cclv\vbox{\unvbox\z@\copy\LT@foot\vss}%
 \@makecol
 \@outputpage
 \setbox\z@\vbox{\box\LT@head\glsLTpenaltycheck}%
 \fi
 \fi
 \fi
 }%
}

```

```

 \fi
 \fi
 \global\@colroom\@colht
 \global\vsizel\@colht
 {\unvbox\z@\box\ifvoid\LT@lastfoot\LT@foot\else\LT@lastfoot\fi}%
 \fi
 \else
 \setbox\@cclv\vbox{\unvbox\@cclv\copy\LT@foot\vss}%
 \@makecol
 \@outputpage
 \global\vsizel\@colroom
 \copy\LT@head
 \glsLTpenaltycheck
 \nobreak
 \fi
}
}
}

```

### 8.13 Rollback v4.46 (glossary-longragged-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-longragged}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{array}
\RequirePackage{longtable}
\@ifundefined{glsdescwidth}{%
 \newlength\glsdescwidth
 \setlength\glsdescwidth{0.6\hsize}
}{%
\@ifundefined{glspagelistwidth}{%
 \newlength\glspagelistwidth
 \setlength\glspagelistwidth{0.1\hsize}
}{%
\newglossarystyle{longragged}{%
 \renewenvironment{theglossary}{%
 {\begin{longtable}{1>{\raggedright}p{glsdescwidth}}}%
 {\end{longtable}}}%
 \renewcommand*\glossaryheader{}%
 \renewcommand*\glsgroupheading}[1]{}%
 \renewcommand\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
 }%
 \renewcommand\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}%
 \glspostdescription\space ##3%
 \tabularnewline
 }%
}
}
}

```

```

}%
\ifglsgroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip{ & \tabularnewline}%
\fi
}
\newglossarystyle{longraggedborder}{%
 \setglossarystyle{longragged}%
 \renewenvironment{theglossary}{%
 \begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|}%
 {\end{longtable}}%
 \renewcommand*\glossaryheader{\hline\endhead\hline\endfoot}%
 }
\newglossarystyle{longraggedheader}{%
 \setglossarystyle{longragged}%
 \renewcommand*\glossaryheader{%
 \bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\endhead}%
 }
\newglossarystyle{longraggedheaderborder}{%
 \setglossarystyle{longraggedborder}%
 \renewcommand*\glossaryheader{%
 \hline\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\hline
 \endhead
 \hline\endfoot}%
 }
\newglossarystyle{longragged3col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}%
 {\end{longtable}}%
 \renewcommand*\glossaryheader{}%
 \renewcommand*\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glstarget{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
 }%
\ifglsgroupskip
 \renewcommand*\glsgroupskip{}%
\else
 \renewcommand*\glsgroupskip{ & & \tabularnewline}%
\fi

```

```

}
\newglossarystyle{longragged3colborder}{%
 \setglossarystyle{longragged3col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{longragged3colheader}{%
 \setglossarystyle{longragged3col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{longragged3colheaderborder}{%
 \setglossarystyle{longragged3colborder}%
 \renewcommand*{\glossaryheader}{%
 \hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
\newglossarystyle{altlongragged4col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & \glossentrysymbol{##1} &
 ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{altlongragged4colheader}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%

```

```

 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
\renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{altlongragged4colborder}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|l|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{altlongragged4colheaderborder}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|>{\raggedright}p{\glsdescwidth}|l|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}

```

## 8.14 Rollback v4.46 (glossary-mcols-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-mcols}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{multicol}
\RequirePackage{glossary-tree}[=v4.46]
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*{\gls mcols}{2}
\newglossarystyle{mcolindex}{%
 \setglossarystyle{index}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\gls mcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 \let\item\glstreeitem
 \let\subitem\glstreesubitem
 \let\subsubitem\glstreesubsubitem
 }
 }

```



```

 }%
 {\end{multicols}}%
}
\newglossarystyle{mcolindexgroup}{%
\setglossarystyle{mcolindex}%
\renewcommand*{\glsgroupheading}[1]{%
\item\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\indexspace}%
}
\newglossarystyle{mcolindexhypergroup}{%
\setglossarystyle{mcolindex}%
\renewcommand*{\glossaryheader}{%
\item\glstreenavigationfmt{\glsnavigation}\indexspace}%
\renewcommand*{\glsgroupheading}[1]{%
\item\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
\indexspace}%
}
\newglossarystyle{mcolindexspannav}{%
\setglossarystyle{index}%
\renewenvironment{theglossary}%
{%
\begin{multicols}{\glscols}{\noindent\glstreenavigationfmt{\glsnavigation}}
\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
\let\item\glstreeitem}%
{\end{multicols}}%
\renewcommand*{\glsgroupheading}[1]{%
\item\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
\indexspace}%
}
}
\newglossarystyle{mcoltree}{%
\setglossarystyle{tree}%
\renewenvironment{theglossary}%
{%
\begin{multicols}{\glscols}
\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
}%
{\end{multicols}}%
}
\newglossarystyle{mcoltreegroup}{%
\setglossarystyle{mcoltree}%
\renewcommand{\glsgroupheading}[1]{\par
\noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcoltreehypergroup}{%
\setglossarystyle{mcoltree}%
\renewcommand*{\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
}

```

```

\renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcoltreesspannav}{%
 \setglossarystyle{tree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsncols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
 }
\newglossarystyle{mcoltreenoname}{%
 \setglossarystyle{treenoname}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsncols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}
\newglossarystyle{mcoltreenonamegroup}{%
 \setglossarystyle{mcoltreenoname}%
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcoltreenonamehypergroup}{%
 \setglossarystyle{mcoltreenoname}%
 \renewcommand*{\glossaryheader}{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcoltreenonamespannav}{%
 \setglossarystyle{treenoname}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsncols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%

```

```

}%
{\end{multicols}}%
\renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcolalmtree}{%
 \setglossarystyle{almtree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glscols}
 \def\@gls@prevlevel{-1}%
 \mbox{}\par
 }%
 {\par\end{multicols}}%
}
\newglossarystyle{mcolalmtreegroup}{%
 \setglossarystyle{mcolalmtree}%
 \renewcommand{\glsgroupheading}[1]{\par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcolalmtreehypergroup}{%
 \setglossarystyle{mcolalmtree}%
 \renewcommand*{\glossaryheader}{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreenavigationfmt{\glsnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcolalmtreespannav}{%
 \setglossarystyle{almtree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glscols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \def\@gls@prevlevel{-1}%
 \mbox{}\par
 }%
 {\par\end{multicols}}%
}

```

```

\renewcommand*{\glsgroupheading}[1]{%
 \par
 \def\@gls@prevlevel{-1}%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}

```

## 8.15 Rollback v4.46 (glossary-super-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-super}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{supertabular}
\@ifundefined{glsdescwidth}{%
 \newlength\glsdescwidth
 \setlength\glsdescwidth{0.6\hsize}
}{%}
\@ifundefined{glspagelistwidth}{%
 \newlength\glspagelistwidth
 \setlength\glspagelistwidth{0.1\hsize}
}{%}
\newglossarystyle{super}{%
 \renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}}%
 \begin{supertabular}{lp\glsdescwidth}}%
 {\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
 \glstryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
}%
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& \tabularnewline}%
\fi
}
\newglossarystyle{superborder}{%
 \setglossarystyle{super}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}}%

```

```

 \begin{supertabular}{|l|p{\glsdescwidth}|}%
 {\end{supertabular}}%
 }
\newglossarystyle{superheader}{%
 \setglossarystyle{super}%
\renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname &
 \bfseries\descriptionname\tabularnewline}%
 \tabletail{}}%
 \begin{supertabular}{lp{\glsdescwidth}}%
 {\end{supertabular}}%
 }
\newglossarystyle{superheaderborder}{%
 \setglossarystyle{super}%
\renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname\tabularnewline\hline}%
 \tabletail{\hline}
 \begin{supertabular}{|l|p{\glsdescwidth}|}%
 {\end{supertabular}}%
 }
}
\newglossarystyle{super3col}{%
\renewenvironment{theglossary}%
 {\tablehead{} \tabletail{}}%
 \begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}%
 {\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
}%
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
\fi
}
\newglossarystyle{super3colborder}{%
\setglossarystyle{super3col}%
\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
 }

```

```

}
\newglossarystyle{super3colheader}{%
 \setglossarystyle{super3col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline}\tabletail{}}%
 {\begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
\newglossarystyle{super3colheaderborder}{%
 \setglossarystyle{super3colborder}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 {\begin{supertabular}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}}%
}
\newglossarystyle{super4col}{%
 \renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}}%
 {\begin{supertabular}{llll}}{%
 \end{supertabular}}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
 \fi
}
\newglossarystyle{super4colheader}{%
 \setglossarystyle{super4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline}%
 \tabletail{}}%

```

```

 \begin{supertabular}{|l|l|l|}%
 \end{supertabular}}%
}
\newglossarystyle{super4colborder}{%
\setglossarystyle{super4col}%
\renewenvironment{theglossary}%
{\tablehead{\hline}\tabletail{\hline}%
\begin{supertabular}{|l|l|l|l|l|}%
\end{supertabular}}%
}
\newglossarystyle{super4colheaderborder}{%
\setglossarystyle{super4col}%
\renewenvironment{theglossary}%
{\tablehead{\hline\bfseries\entryname&\bfseries\descriptionname&
\bfseries\symbolname &
\bfseries\pagelistname\tabularnewline\hline}%
\tabletail{\hline}%
\begin{supertabular}{|l|l|l|l|l|}%
\end{supertabular}}%
}
\newglossarystyle{altsuper4col}{%
\setglossarystyle{super4col}%
\renewenvironment{theglossary}%
{\tablehead{}}\tabletail{}%
\begin{supertabular}{|lp{\glsdescwidth}lp{\glspagelistwidth}}%
\end{supertabular}}%
}
\newglossarystyle{altsuper4colheader}{%
\setglossarystyle{super4colheader}%
\renewenvironment{theglossary}%
{\tablehead{\bfseries\entryname&\bfseries\descriptionname&
\bfseries\symbolname &
\bfseries\pagelistname\tabularnewline}\tabletail{}%
\begin{supertabular}{|lp{\glsdescwidth}lp{\glspagelistwidth}}%
\end{supertabular}}%
}
\newglossarystyle{altsuper4colborder}{%
\setglossarystyle{super4colborder}%
\renewenvironment{theglossary}%
{\tablehead{\hline}\tabletail{\hline}%
\begin{supertabular}%
{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}%
\end{supertabular}}%
}
\newglossarystyle{altsuper4colheaderborder}{%
\setglossarystyle{super4colheaderborder}%
\renewenvironment{theglossary}%
{\tablehead{\hline
\bfseries\entryname &
\bfseries\descriptionname &

```

```

 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
\tabletail{\hline}%
\begin{supertabular}%
 {1|p{\glsdescwidth}|1|p{\glspagelistwidth}|}%
\end{supertabular}}%
}

```

## 8.16 Rollback v4.46 (glossary-superragged-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-superragged}[2020/03/19 v4.46 (NLCT)]
\RequirePackage{array}
\RequirePackage{supertabular}
\@ifundefined{glsdescwidth}{%
 \newlength\glsdescwidth
 \setlength\glsdescwidth{0.6\hsize}
}{%}
\@ifundefined{glspagelistwidth}{%
 \newlength\glspagelistwidth
 \setlength\glspagelistwidth{0.1\hsize}
}{%}
\newglossarystyle{superragged}{%
 \renewenvironment{theglossary}%
 {\tablehead{\tabletail}{%
 \begin{supertabular}{1>{\raggedright}p{\glsdescwidth}}}%
 {\end{supertabular}}}%
 \renewcommand*\glossaryheader{}%
 \renewcommand*\glsgroupheading}[1]{%}
 \renewcommand\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
 }%
 \renewcommand\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3%
 \tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*\glsgroupskip}{%}
 \else
 \renewcommand*\glsgroupskip}{& \tabularnewline}%
 \fi
}
\newglossarystyle{superraggedborder}{%
 \setglossarystyle{superragged}%

```



```

\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|}}%
 {\end{supertabular}}%
}
\newglossarystyle{superraggedheader}{%
 \setglossarystyle{superragged}%
\renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline}%
 \tabletail{}}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}}}%
 {\end{supertabular}}%
}
\newglossarystyle{superraggedheaderborder}{%
 \setglossarystyle{superragged}%
\renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname\tabletail{\hline}%
 \tabletail{\hline}
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|}}%
 {\end{supertabular}}%
}
\newglossarystyle{superragged3col}{%
\renewenvironment{theglossary}%
 {\tablehead{} \tabletail{}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 ##2\tabletail{}%
}
\renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabletail{}%
}
\ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
\else
 \renewcommand*{\glsgroupskip}{& \tabletail{}%
}
\fi
}
\newglossarystyle{superragged3colborder}{%
 \setglossarystyle{superragged3col}%
}

```

```

\renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{supertabular}}%
}
\newglossarystyle{superragged3colheader}{%
 \setglossarystyle{superragged3col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline}\tabletail{}}%
 \begin{supertabular}{|l>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{supertabular}}%
}
\newglossarystyle{superragged3colheaderborder}{%
 \setglossarystyle{superragged3colborder}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{supertabular}}%
}
\newglossarystyle{altsuperragged4col}{%
 \renewenvironment{theglossary}%
 {\tablehead{} \tabletail{}%
 \begin{supertabular}{|l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{supertabular}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
 \fi
}

```

```

}
\newglossarystyle{altsuperragged4colheader}{%
 \setglossarystyle{altsuperragged4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline}\tabletail{}}%
 {\begin{supertabular}{l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
\newglossarystyle{altsuperragged4colborder}{%
 \setglossarystyle{altsuper4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}%
 {l|>{\raggedright}p{\glsdescwidth}l|}%
 >{\raggedright}p{\glspagelistwidth}l}}%
 {\end{supertabular}}}%
}
\newglossarystyle{altsuperragged4colheaderborder}{%
 \setglossarystyle{altsuperragged4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname &
 \bfseries\descriptionname &
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}%
 {l|>{\raggedright}p{\glsdescwidth}l|}%
 >{\raggedright}p{\glspagelistwidth}l}}%
 {\end{supertabular}}}%
}

```

## 8.17 Rollback v4.46 (glossary-tree-2020-03-19.sty)

Version 4.46 preserved for rollback.

```

\ProvidesPackage{glossary-tree}[2020/03/19 v4.46 (NLCT)]
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*{\glstreenamefmt}[1]{\textbf{#1}}
\newcommand*{\glstreegroupheaderfmt}[1]{\glstreenamefmt{#1}}
\newcommand*{\glstreenavigationfmt}[1]{\glstreenamefmt{#1}}
\ifdef\@idxitem
{\newcommand{\glstreeitem}{\@idxitem}}
{\newcommand{\glstreeitem}{\par\hangindent40\p@}}
\ifdef\subitem

```

```

{\let\glstreesubitem\subitem}
{\newcommand\glstreesubitem{\glstreeitem\hspace*{20\p@}}
\ifdef\subsubitem
{\let\glstreesubsubitem\subsubitem}
{\newcommand\glstreesubsubitem{\glstreeitem\hspace*{30\p@}}
\newcommand{\glstreepredesc}{\space}
\newcommand{\glstreechildpredesc}{\space}
\newglossarystyle{index}{%
\renewenvironment{theglossary}%
{\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
\let\item\glstreeitem
\let\subitem\glstreesubitem
\let\subsubitem\glstreesubsubitem
}%
{\par}%
\renewcommand*\{glossaryheader}{}%
\renewcommand*\{glsgroupheading}[1]{}%
\renewcommand*\{glossentry}[2]{%
\item\glstreeitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
\ifglshassymbol{##1}{\space\glossentrysymbol{##1}}{}}%
\glstreepredesc \glossentrydesc{##1}\glspostdescription\space ##2%
}%
\renewcommand{\subglossentry}[3]{%
\ifcase##1\relax
% level 0
\item
\or
% level 1
\subitem
\glssubentryitem{##2}%
\else
% all other levels
\subsubitem
\fi
\glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
\ifglshassymbol{##2}{\space\glossentrysymbol{##2}}{}}%
\glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3%
}%
\renewcommand*\{glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}}
\newglossarystyle{indexgroup}{%
\setglossarystyle{index}%
\renewcommand*\{glsgroupheading}[1]{%
\item\glstreegroupheaderfmt{\glsgrouptitle{##1}}%
\indexspace
}%
}
\newglossarystyle{indexhypergroup}{%
\setglossarystyle{index}%
\renewcommand*\{glossaryheader}{%

```

```

\item\glstreenavigationfmt{\glsnavigation}\indexspace}%
\renewcommand*\glsgroupheading}[1]{%
\item\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
\indexspace}%
}
\newglossarystyle{tree}{%
\renewenvironment{theglossary}%
{\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}}%
{}%
\renewcommand*\glossaryheader}{%
\renewcommand*\glsgroupheading}[1]{%
\renewcommand{\glossentry}[2]{%
\hangindent0pt\relax
\parindent0pt\relax
\glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
\ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{%
\glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
}%
\renewcommand{\subglossentry}[3]{%
\hangindent##1\glstreeindent\relax
\parindent##1\glstreeindent\relax
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
\ifglshassymbol{##2}{\space(\glossentrysymbol{##2})}{%
\glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3\par
}%
\renewcommand*\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}}
\newglossarystyle{treegroup}{%
\setglossarystyle{tree}%
\renewcommand*\glsgroupheading}[1]{\par
\noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par
\indexspace}%
}
\newglossarystyle{treehypergroup}{%
\setglossarystyle{tree}%
\renewcommand*\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
\renewcommand*\glsgroupheading}[1]{%
\par\noindent
\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}
\newlength\glstreeindent
\setlength{\glstreeindent}{10pt}
\newglossarystyle{treenoname}{%

```

```

\renewenvironment{theglossary}%
 {\setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}}%
 {}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
}%
\renewcommand{\subglossentry}[3]{%
 \hangindent##1\glstreeindent\relax
 \parindent##1\glstreeindent\relax
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \glstarget{##2}{\strut}%
 \glossentrydesc{##2}\glspostdescription\space##3\par
}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{treenonamegroup}{%
 \setglossarystyle{treenoname}%
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt
 {\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{treenonamehypergroup}{%
 \setglossarystyle{treenoname}%
 \renewcommand*{\glossaryheader}{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newrobustcmd*{\glsfindwidesttoplevelname}[1][\@glo@types]{%
 \dimen@=0pt\relax
 \gls@tmplen=0pt\relax
 \forallglossaries[#1]{\@gls@type}%
 {%
 \forglsentries[\@gls@type]{\@glo@label}%
 {%
 \ifglshasparent{\@glo@label}%
 {}%
 {%

```

```

\settowidth{\dimen@}%
 {\glstreenamefmt{\glstreename{\@glo@label}}}%
\ifdim\dimen@>\gls@tmplen
 \gls@tmplen=\dimen@
 \letcs{\@glswidestname}{glo@\glsdetoklabel{\@glo@label}@name}%
\fi
}%
}%
}%
}
\newcommand*\glssetwidest[2][0]{%
 \expandafter\def\csname @glswidestname\romannumeral#1\endcsname{%
#2}%
}
\newcommand*\@glswidestname{}
\newcommand*\glstreenamebox[2]{%
 \makebox[#1][l]{#2}%
}
\newglossarystyle{almtree}{%
 \renewenvironment{theglossary}%
 {\def\@gls@prevlevel{-1}%
 \mbox{}\par}%
 {\par}%
 \renewcommand*\glossaryheader{}%
 \renewcommand*\glsgroupheading[1]{}%
 \renewcommand*\glossentry[2]{%
 \ifnum\@gls@prevlevel=0\relax
 \else
 \settowidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
 \fi
 \hangindent\glstreeindent
 \parindent\glstreeindent
 \makebox[Opt][r]{\glstreenamebox{\glstreeindent}{%
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}}}%
 \ifglshassymbol{##1}{(\glossentrysymbol{##1})\space}{}%
 \glossentrydesc{##1}\glspostdescription \space ##2\par
 \def\@gls@prevlevel{0}%
 }%
 \renewcommand*\subglossentry[3]{%
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \ifnum\@gls@prevlevel=##1\relax
 \else
 \@ifundefined{@glswidestname\romannumeral##1}{%
 \settowidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}{%
 \settowidth{\gls@tmplen}{\glstreenamefmt{%
 \csname @glswidestname\romannumeral##1\endcsname\space}}}%
 \ifnum\@gls@prevlevel<##1\relax
 \setlength\glstreeindent\gls@tmplen

```

```

\addtolength\glstreeindent\parindent
\parindent\glstreeindent
\else
\@ifundefined{@glswidestname\romannumeral\@gls@prevlevel}{%
\settowidth{\glstreeindent}{\glstreenamefmt{%
\@glswidestname\space}}}{%
\settowidth{\glstreeindent}{\glstreenamefmt{%
\csname @glswidestname\romannumeral\@gls@prevlevel
\endcsname\space}}}{%
\addtolength\parindent{-\glstreeindent}%
\setlength\glstreeindent\parindent
\fi
\fi
\hangindent\glstreeindent
\makebox[Opt][r]{\glstreenamebox{\gls@tmplen}{%
\glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}}}{%
\ifglshassymbol{##2}{(\glossentrysymbol{##2})\space}{}%
\glossentrydesc{##2}\glspostdescription\space ##3\par
\def\@gls@prevlevel{##1}%
}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{almtreegroup}{%
\setglossarystyle{almtree}%
\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}%
\par\indexspace}%
}
\newglossarystyle{almtreehypergroup}{%
\setglossarystyle{almtree}%
\renewcommand*{\glossaryheader}{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
\renewcommand*{\glsgroupheading}[1]{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}}

```



## 8.18 Rollback v4.49 (glossaries-2021-11-01.sty)

```

\NeedsTeXFormat{LaTeX2e}
\DeclareRelease{v4.46}{2020-03-19}{glossaries-2020-03-19.sty}
\DeclareCurrentRelease{v4.49}{2021-11-01}
\ProvidesPackage{glossaries}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{ifthen}
\RequirePackage{xkeyval}[2006/11/18]
\RequirePackage{mfirstuc}
\RequirePackage{textcase}
\renewcommand*{\mfirstucMakeUppercase}{\MakeTextUppercase}%
\RequirePackage{xfor}
\RequirePackage{datatool-base}
\RequirePackage{amsgen}
\RequirePackage{etoolbox}
\newif\if@gls@docloaded
\@ifpackageloaded{doc}{%
 {%
 \@gls@docloadedtrue
 }%
 {%
 \@ifclassloaded{nlctdoc}{\@gls@docloadedtrue}{\@gls@docloadedfalse}%
 }
}
\if@gls@docloaded
 \let\glsorg@theglossary\theglossary
 \let\glsorg@endtheglossary\endtheglossary
 \let\glsorg@PrintChanges\PrintChanges
 \renewcommand{\PrintChanges}{%
 \begingroup
 \let\theglossary\glsorg@theglossary
 \let\endtheglossary\glsorg@endtheglossary
 \glsorg@PrintChanges
 \endgroup
 }
\fi
\newif\if@gls@debug
\define@choicekey{glossaries.sty}{debug}[\gls@debug@val\gls@debug@nr]{%
 {true,false,showtargets,showaccsupp}[true]{%
 \ifcase\gls@debug@nr\relax
 % debug=true
 \@gls@debugtrue
 \renewcommand*{\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
 }%
 \renewcommand*{\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
 }%
 \let\gls@showtarget\@gobble
 \PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
 \or

```

```

% debug=false
\@gls@debugfalse
\let\@glsshowtarget\@gobble
\let\@glsshowaccsupp\@gobblethree
\PackageInfo{glossaries}{debug mode OFF}%
\or
% debug=showtargets
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowtarget}{\@glsshowtarget}%
\or
% debug=showaccsupp
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowaccsupp}{\glsshowaccsupp}%
\fi
}
\newcommand*\glsshowtarget}[1]{%
\ifmmode
 \nfss@text{\glsshowtargetfont [#1]}%
\else
 \ifinner
 {\glsshowtargetfont [#1]}%
 \else
 \glsshowtargetouter{#1}%
 \fi
\fi
}
\newcommand*\glsshowtargetouter}[1]{%
 \glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}
\newcommand*\glsshowtargetsymbol}{\tiny\triangleright}
\newcommand*\glsshowtargetfont}{\ttfamily\footnotesize}
\newcommand*\@glsshowtarget}[1]{%
\newrobustcmd*\@@glsshowtarget}[1]{%
 \begingroup
 \protected@edef\@gls@tmp{#1}%
 \@onelevel@sanitize\@gls@tmp
 \expandafter\glsshowtarget\expandafter{\@gls@tmp}%

```

```

\endgroup
}
\newcommand*{\@glsshowaccsupp}[3]{}
\newrobustcmd*{\glsshowaccsupp}[3]{%
 \ifstrempy{#1}%
 {\@glsshowtarget{/#2 (#3)}}%
 {\@glsshowtarget{/#2 (#3) [#1]}}%
}
\newcommand*{\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries\space (or move
 \string\newglossaryentry\space
 definitions into the preamble)}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key. It may
 be that the 'see' key has been written to the .glsdefs
 file from the previous run, in which case you need to
 move your definitions
 to the preamble if you don't want to use
 \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@choicekey{glossaries.sty}{seenoinde}x{%
 [\gls@seenoinde@val\gls@seenoinde@nr]{error,warn,ignore}{%
 \ifcase\gls@seenoinde@nr
 \renewcommand*{\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key}}%
 }%
 \or
 \renewcommand*{\@gls@see@noindex}{%
 \GlossariesWarning{'\gls@xr@key' key ignored}%
 }%
 \or
 \renewcommand*{\@gls@see@noindex}{}%
 \fi
 }
\define@boolkey{glossaries.sty}[gls]{toc}[true]{}
\define@boolkey{glossaries.sty}[gls]{numberline}[true]{}
\ifcsundef{chapter}{
 \newcommand*{\@glossarysec}{section}}%
 {\newcommand*{\@glossarysec}{chapter}}
\define@choicekey{glossaries.sty}{section}{part,chapter,section,%
subsection,subsubsection,paragraph,subparagraph}[section]{%

```

```

\renewcommand*{\@glossarysec}{#1}}
\newcommand*{\@glossarysecstar}{*}
\newcommand*{\@glossaryseclabel}{}
\newcommand*{\glsautoprefix}{}
\define@choicekey{glossaries.sty}{numberedsection}%
 [\gls@numberedsection@val\gls@numberedsection@nr]{%
false,nolabel,autolabel,nameref}[nolabel]{%
 \ifcase\gls@numberedsection@nr\relax
 \renewcommand*{\@glossarysecstar}{*}%
 \renewcommand*{\@glossaryseclabel}{}%
 \or
 \renewcommand*{\@glossarysecstar}{}%
 \renewcommand*{\@glossaryseclabel}{}%
 \or
 \renewcommand*{\@glossarysecstar}{}%
 \renewcommand*{\@glossaryseclabel}{}%
 \label{\glsautoprefix\@glo@type}}%
 \or
 \renewcommand*{\@glossarysecstar}{*}%
 \renewcommand*{\@glossaryseclabel}{}%
 \protected@edef\@currentlabelname{\glossarytoctitle}%
 \label{\glsautoprefix\@glo@type}}%
 \fi
}
\@ifpackageloaded{classicthesis}
{\newcommand*{\@glossary@default@style}{index}}
{\newcommand*{\@glossary@default@style}{list}}
\define@key{glossaries.sty}{style}{%
 \def\@glossary@default@style{#1}%
}
\newcommand*{\@gls@declareoption}[2]{%
 \DeclareOptionX{#1}{#2}%
 \DeclareOption{#1}{#2}%
}
\newcommand*{\glossaryentrynumbers}[1]{#1\gls@save@numberlist{#1}}
\@gls@declareoption{nonumberlist}{%
 \renewcommand*{\glossaryentrynumbers}[1]{\gls@save@numberlist{#1}}%
}
\define@boolkey{glossaries.sty}[gls]{savenumberlist}[true]{}
\gls@savenumberlistfalse
\newcommand*\@glo@seeautonumberlist{}
\@gls@declareoption{seeautonumberlist}{%
 \renewcommand*\@glo@seeautonumberlist{}%
 \def\@glo@prefix{\glsnextpages}%
}%
}
\define@boolkey{glossaries.sty}[gls]{esclocations}[true]{}
\gls@esclocationstrue
\newcommand*{\@gls@loadlong}{\RequirePackage{glossary-long}[=v4.49]}
\@gls@declareoption{no long}{\renewcommand*{\@gls@loadlong}{}

```

```

\IfFileExists{supertabular.sty}{%
 \newcommand*{\@gls@loadsuper}{\RequirePackage{glossary-super}[=v4.49]}{%
 \newcommand*{\@gls@loadsuper}{}}
\@gls@declareoption{nosuper}{\renewcommand*{\@gls@loadsuper}{}}
\newcommand*{\@gls@loadlist}{\RequirePackage{glossary-list}[=v4.49]}
\@gls@declareoption{no list}{%
 \renewcommand*{\@gls@loadlist}{%
 \ifdefstring{\@glossary@default@style}{list}%
 {\let\@glossary@default@style\relax}%
 }%
}%
}
\newcommand*{\@gls@loadtree}{\RequirePackage{glossary-tree}[=v4.49]}
\@gls@declareoption{notree}{\renewcommand*{\@gls@loadtree}{}}
\@gls@declareoption{nostyles}{%
 \renewcommand*{\@gls@loadlong}{}%
 \renewcommand*{\@gls@loadsuper}{}%
 \renewcommand*{\@gls@loadlist}{}%
 \renewcommand*{\@gls@loadtree}{}%
 \let\@glossary@default@style\relax
}
\newcommand*{\glspostdescription}{%
 \ifglsnopostdot\else.\spacefactor\sfcode‘\.\ \fi
}
\define@boolkey{glossaries.sty}[gls]{nopostdot}[true]{}
\glsnopostdotfalse
\define@boolkey{glossaries.sty}[gls]{nogroupskip}[true]{}
\glsnogroupskipfalse
\define@boolkey{glossaries.sty}[gls]{ucmark}[true]{}
\@ifclassloaded{memoir}
{%
 \glsucmarktrue
}%
{%
 \glsucmarkfalse
}
\newcommand*{\@gls@define@glossaryentrycounter}{%
 \ifglsentrycounter
 \ifundef\c@glossaryentry
 {%
 \ifx\@gls@counterwithin\@empty
 \newcounter{glossaryentry}%
 \else
 \newcounter{glossaryentry}[\@gls@counterwithin]%
 \fi
 \def\theHglossaryentry{\currentglossary.\theglossaryentry}%
 }%
 }%
\fi
}

```

```

\define@boolkey{glossaries.sty}[gls]{entrycounter}[true]{}
\glentrycounterfalse
\define@key{glossaries.sty}{counterwithin}{%
 \renewcommand*{\@gls@counterwithin}{#1}%
 \glentrycountertrue
 \@gls@define@glossaryentrycounter
}
\newcommand*{\@gls@counterwithin}{}
\newcommand{\@gls@define@glossarysubentrycounter}{%
 \ifundef\c@glossarysubentry
 {%
 \ifglssubentrycounter
 \ifglentrycounter
 \newcounter{glossarysubentry}[glossaryentry]%
 \else
 \newcounter{glossarysubentry}%
 \fi
 \def\theH@glossarysubentry{\currentglossary.\currentglssubentry.\theglossarysubentry}%
 \fi
 }%
 }%
}
\define@boolkey{glossaries.sty}[gls]{subentrycounter}[true]{}
\glssubentrycounterfalse
\newcommand*{\@glo@default@sorttype}{standard}
\define@choicekey{glossaries.sty}{sort}{standard,def,use,none}{%
 \renewcommand*{\@glo@default@sorttype}{#1}%
 \csname @gls@setupsort@#1\endcsname
}
\newcommand*{\@gls@prestandardsort}[3]{%
 \glsdosanitizesort
}
\newcommand*{\@glo@check@sortallowed}[1]{}
\newcommand*{\@gls@setupsort@standard}{%
 \def\do@glo@storeentry{\@glo@storeentry}%
 \def\@gls@defsortcount##1{%
 \def\@gls@defsort##1##2{%
 \ifx\@glo@sort\@gls@defaultsort
 \let\@glo@sort\@glo@name
 \fi
 \let\glsdosanitizesort\@gls@sanitizesort
 \glsprestandardsort{\@glo@sort}{##1}{##2}%
 \expandafter\protected@xdef\csname glo@##2@sort\endcsname{\@glo@sort}%
 }%
 \def\@gls@setsort##1{%
 \let\@glo@check@sortallowed\@gobble
}
\@gls@setupsort@standard
\newcommand*\glsortnumberfmt[1]{%
 \ifnum#1<100000 0\fi

```

```

\ifnum#1<10000 0\fi
\ifnum#1<1000 0\fi
\ifnum#1<100 0\fi
\ifnum#1<10 0\fi
\number#1%
}
\newcommand*{\@gls@setupsort@def}{%
\def\do@glo@storeentry{\@glo@storeentry}%
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
\ifcsundef{glossary@##1@sortcount}%
{\@gls@defsortcount{##1}}%
{}%
\expandafter\global\expandafter
\advance\csname glossary@##1@sortcount\endcsname by 1\relax
\expandafter\protected@xdef\csname glo@##2@sort\endcsname{%
\expandafter\glssortnumberfmt
{\csname glossary@##1@sortcount\endcsname}}%
}%
\def\@gls@setsort##1{%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*{\@gls@setupsort@use}{%
\let\do@glo@storeentry\@gobble
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
\expandafter\gdef\csname glo@##2@sort\endcsname{}%
}%
\def\@gls@setsort##1{%
\protected@edef\@glo@parent{\csname glo@##1@parent\endcsname}%
\ifx\@glo@parent\@empty
\else
\expandafter\@gls@setsort\expandafter{\@glo@parent}%
\fi
\protected@edef\@glo@type{\csname glo@##1@type\endcsname}%
\protected@edef\@gls@tmp{\csname glo@##1@sort\endcsname}%
\ifx\@gls@tmp\@empty
\expandafter\global\expandafter
\advance\csname glossary@\@glo@type @sortcount\endcsname by 1\relax
\expandafter\protected@xdef\csname glo@##1@sort\endcsname{%
\expandafter\glssortnumberfmt
{\csname glossary@\@glo@type @sortcount\endcsname}}%
\@glo@storeentry{##1}%
\fi

```

```

}%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*\@gls@setupsort@none{%
\def\do@glo@storeentry##1{%
\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{%
\expandafter\global\expandafter\let\csname glo@##2@sort\endcsname\@glo@sort
}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=none not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*\glsdefmain{%
\if@gls@docloaded
\newglossary[glg2]{main}{gls2}{glo2}{\glossaryname}%
\else
\newglossary{main}{gls}{glo}{\glossaryname}%
\fi
\newcommand*\gls@tr@set@main@toctitle{%
\translatelet{\glossarytoctitle}{Glossary}%
}%
}
\newcommand*\glsdefaulttype{main}
\newcommand*\glsacronymtype{\glsdefaulttype}
\@gls@declareoption{nomain}{%
\let\glsdefaulttype\relax
\renewcommand*\glsdefmain}{%
}
\define@boolkey{glossaries.sty}[gls]{acronym}[true]{%
\ifglsacronym
\renewcommand*\@gls@do@acronymsdef{%
\DeclareAcronymList{acronym}%
\newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
\renewcommand*\glsacronymtype{acronym}%
\newcommand*\gls@tr@set@acronym@toctitle{%
\translatelet{\glossarytoctitle}{Acronyms}%
}%
}%
\else
\let\@gls@do@acronymsdef\relax
\fi
}
\AtBeginDocument{%
\ifglsacronym
\ifbool{glscompatible-3.07}%
{}%
{%
\providecommand*\printacronyms[1]{}%
}
}

```



```

 \printglossary[type=\acronymtype,#1]}%
 }%
\fi
}
\newcommand*{\@gls@do@acronymsdef}{}
\@gls@declareoption{acronyms}{%
 \glsacronymtrue
 \def\@gls@do@acronymsdef{%
 \DeclareAcronymList{acronym}%
 \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
 \renewcommand*{\acronymtype}{acronym}%
 \newcommand*{\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
}
\newcommand*{\@gls@acronymlists}{}
\newcommand*{\@addtoacronymlists}[1]{%
 \ifx\@gls@acronymlists\@empty
 \protected@xdef\@gls@acronymlists{#1}%
 \else
 \protected@xdef\@gls@acronymlists{\@gls@acronymlists,#1}%
 \fi
}
\newcommand*{\DeclareAcronymList}[1]{%
 \glsIfListOfAcronyms{#1}{\@addtoacronymlists{#1}}%
}
\newcommand{\glsIfListOfAcronyms}[1]{%
 \protected@edef\@do@gls@islistofacronyms{%
 \noexpand\@gls@islistofacronyms{#1}{\@gls@acronymlists}}%
 \@do@gls@islistofacronyms
}
\newcommand{\@gls@islistofacronyms}[4]{%
 \def\gls@islistofacronyms##1,#1,##2\end@gls@islistofacronyms{%
 \def\@gls@before{##1}\def\@gls@after{##2}}%
 \gls@islistofacronyms,#2,#1,\@nil\end@gls@islistofacronyms
 \ifx\@gls@after\@nnil
 #4%
 \else
 #3%
 \fi
}
\newif\if@gls@isacronymlist
\newcommand*{\gls@checkisacronymlist}[1]{%
 \glsIfListOfAcronyms{#1}%
 {\@gls@isacronymlisttrue}{\@gls@isacronymlistfalse}%
}
\newcommand*{\SetAcronymLists}[1]{%
 \renewcommand*{\@gls@acronymlists}{#1}%
}

```

```

\define@key{glossaries.sty}{acronymlists}{%
 \DeclareAcronymList{#1}%
}
\newcommand{\glscounter}{page}
\define@key{glossaries.sty}{counter}{%
 \renewcommand*{\glscounter}{#1}%
}
\newcommand*{\@gls@nohyperlist}{}
\newcommand*{\GlsDeclareNoHyperList}[1]{%
 \ifdefempty\@gls@nohyperlist
 {%
 \renewcommand*{\@gls@nohyperlist}{#1}%
 }%
 {%
 \appto\@gls@nohyperlist{,#1}%
 }%
}
\define@key{glossaries.sty}{nohypertypes}{%
 \GlsDeclareNoHyperList{#1}%
}
\newcommand*{\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{#1}%
}
\newcommand*{\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{#1}%
}
\newcommand{\glosortentrieswarning}{%
 \typeout{Using TeX to sort glossary entries---this may
 take a while}%
}
\@gls@declareoption{nowarn}{%
 \if@gls@debug
 \GlossariesWarning{Warnings can't be suppressed in debug mode}%
 \else
 \renewcommand*{\GlossariesWarning}[1]{}%
 \renewcommand*{\GlossariesWarningNoLine}[1]{}%
 \renewcommand*{\glosortentrieswarning}{}%
 \renewcommand*{\@gls@missinglang@warn}[2]{}%
 \fi
}
\newcommand*{\@gls@missinglang@warn}[2]{%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for '#1'.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 'glossaries-#2' or similar}%
}
\@gls@declareoption{nolangwarn}{%
 \renewcommand*{\@gls@missinglang@warn}[2]{}%
}

```

```

\newcommand*{\@gls@warnonglossdefined}{%
 \GlossariesWarning{Overriding \string\printglossary}%
}
\newcommand*{\@gls@warnontheGLOSSdefined}{%
 \GlossariesWarning{Overriding 'theGLOSS' environment}%
}
\@gls@declareoption{noredefwarn}{%
 \renewcommand*{\@gls@warnonglossdefined}{}%
 \renewcommand*{\@gls@warnontheGLOSSdefined}{}%
}
\newcommand*{\@gls@sanitizedesc}{%
}
\newcommand*{\glssetexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
}
\newcommand*{\glssetnoexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@noexpand@field{##1}{#1}{##2}%
 }%
}
\glssetexpandfield{type}
\glssetnoexpandfield{desc}
\glssetnoexpandfield{descplural}
\newcommand*{\@gls@sanitizename}{}
\glssetnoexpandfield{name}
\newcommand*{\@gls@sanitizesymbol}{}
\glssetnoexpandfield{symbol}
\glssetnoexpandfield{symbolplural}
\newcommand*{\@gls@sanitizesort}{%
 \ifgls@sanitizesort
 \@gls@sanitizesort
 \else
 \@gls@nosanitizesort
 \fi
}
\newcommand*{\@gls@sanitizesort}{%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@gls@nosanitizesort}{}
\newcommand*{\@gls@noidx@sanitizesort}{%
 \ifdefvoid\@glo@sort
 {}%
 {%
 \expandafter\@gls@noidx@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@gls@noidx@sanitizesort#1#2\gls@end@sanitizesort{%
 \def\@glo@sort{#1#2}%
}

```

```

 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@@gls@noidx@nosanitizesort}{%
 \ifdefvoid\@glo@sort
 {}%
 {%
 \expandafter\@@gls@noidx@no@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@@gls@noidx@no@sanitizesort#1#2\gls@end@sanitizesort{%
 \bgroup
 \glsnoidxstripaccents
 \protected@xdef\@@glo@sort{#1#2}%
 \egroup
 \let\@glo@sort\@@glo@sort
}
\newcommand*\glsnoidxstripaccents{%
 \let\IeC\@firstofone
 \let\add@accent@\@secondoftwo
 \let\@text@composite@x\@secondoftwo
 \let\@tabacckludge\@secondoftwo
 \expandafter\def\csname \encodingdefault-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname OT1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname T1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname PD1-cmd\endcsname##1##2##3{##3}%
 \let'\@firstofone
 \let'\@firstofone
 \let~\@firstofone
 \let"\@firstofone
 \let\u\@firstofone
 \let\t\@firstofone
 \let\d\@firstofone
 \let\r\@firstofone
 \let=\@firstofone
 \let.\@firstofone
 \let~\@firstofone
 \letv\@firstofone
 \letH\@firstofone
 \letc\@firstofone
 \letb\@firstofone
 \leta\@secondoftwo
 \def\AE{AE}%
 \def\ae{ae}%
 \def\OE{OE}%
 \def\oe{oe}%
 \def\AA{AA}%
 \def\aa{aa}%
 \def\L{L}%
 \def\l{l}%
 \def\O{O}%

```

```

\def\o{o}%
\def\SS{SS}%
\def\ss{ss}%
\def\th{th}%
\def\TH{TH}%
\def\dh{dh}%
\def\DH{DH}%
}
\@ifl@t@r\fmtversion{2019/10/01}
{%
\appto\glsnoidxstripaccents{\let\UTFviii@two@octets\UTFviii@two@octets@combine}%
}
{}
\define@boolkey[glS]{sanitize}{description}[true]{%
\GlossariesWarning{sanitize={description} package option deprecated}%
\ifglS@sanitize@description
\glssetnoexpandfield{desc}%
\glssetnoexpandfield{descplural}%
\else
\glssetexpandfield{desc}%
\glssetexpandfield{descplural}%
\fi
}
\define@boolkey[glS]{sanitize}{name}[true]{%
\GlossariesWarning{sanitize={name} package option deprecated}%
\ifglS@sanitize@name
\glssetnoexpandfield{name}%
\else
\glssetexpandfield{name}%
\fi
}
\define@boolkey[glS]{sanitize}{symbol}[true]{%
\GlossariesWarning{sanitize={symbol} package option deprecated}%
\ifglS@sanitize@symbol
\glssetnoexpandfield{symbol}%
\glssetnoexpandfield{symbolplural}%
\else
\glssetexpandfield{symbol}%
\glssetexpandfield{symbolplural}%
\fi
}
\define@boolkey{glossaries.sty}[glS]{sanitizesort}[true]{%
\ifglssanitizesort
\glssetnoexpandfield{sortvalue}%
\renewcommand*{\@glS@noidx@setsanitizesort}{%
\glssanitizesorttrue
\glssetnoexpandfield{sortvalue}%
}%
\else
\glssetexpandfield{sortvalue}%

```

```

 \renewcommand*\@gls@noidx@setsanitizesort}{%
 \glssanitizesortfalse
 \glssetexpandfield{sortvalue}%
 }%
 \fi
}
\glssanitizesorttrue
\glssetnoexpandfield{sortvalue}%
\newcommand*\@gls@noidx@setsanitizesort}{%
 \glssanitizesortfalse
 \glssetexpandfield{sortvalue}%
}
\define@choicekey[gls]{sanitize}{sort}[true,false][true]{%
 \setbool{glssanitizesort}{#1}%
 \ifglssanitizesort
 \glssetnoexpandfield{sortvalue}%
 \else
 \glssetexpandfield{sortvalue}%
 \fi
 \GlossariesWarning{sanitize={sort} package option
 deprecated. Use sanitizesort instead}%
}
\define@key{glossaries.sty}{sanitize}[description=true,symbol=true,name=true]{%
 \ifthenelse{\equal{#1}{none}}{%
 {%
 \GlossariesWarning{sanitize package option deprecated}%
 \glssetexpandfield{name}%
 \glssetexpandfield{symbol}%
 \glssetexpandfield{symbolplural}%
 \glssetexpandfield{desc}%
 \glssetexpandfield{descplural}%
 }%
 }%
 \setkeys[gls]{sanitize}{#1}%
}%
}
\newif\ifglstranslate
\newcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 }%
 }%
}

```

```

 {}%
 }%
 {}%
}
}
\newcommand{\glsifusedtranslatordict}[3]{%
 \glsifusetranslator
 {\ifcsdef{ver@glossaries-dictionary-#1.dict}{#2}{#3}}%
 {#3}%
}
\@gls@declareoption{nottranslate}{%
 \glstranslatefalse
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
}
\define@choicekey{glossaries.sty}{translate}{%
 [\gls@translate@val\gls@translate@nr]%
 {true,false,babel}[true]%
 {%
 \ifcase\gls@translate@nr\relax
 \glstranslatetrue
 \renewcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 {}%
 }%
 {}%
 }%
 }%
 \or
 \glstranslatefalse
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
 \or
 \glstranslatetrue
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
 \fi
 }
 \glstranslatefalse

```

```

\let\glsifusetranslator\@secondoftwo
\@ifpackageloaded{translator}%
{%
 \glstranslatetrue
 \let\glsifusetranslator\@firstoftwo
}%
{%
 \for\gls@thissty:=tracklang,babel,ngerman,polyglossia\do
 {
 \@ifpackageloaded{\gls@thissty}%
 {%
 \glstranslatetrue
 \@endfortrue
 }%
 {}%
 }
}
\define@boolkey{glossaries.sty}[gls]{indexonlyfirst}[true]{}
\glsindexonlyfirstfalse
\define@boolkey{glossaries.sty}[gls]{hyperfirst}[true]{}
\glshyperfirsttrue
\newcommand*{\@gls@setacrstyle}{}
\define@boolkey{glossaries.sty}[glsacr]{footnote}[true]{}
\ifbool{glsacrdescription}%
{}%
{%
 \renewcommand*{\@gls@sanitizedesc}{}%
}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{description}[true]{}
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{smallcaps}[true]{}
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{smaller}[true]{}
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{dua}[true]{}
\renewcommand*{\@gls@sanitizesymbol}{}%
\renewcommand*{\@gls@setacrstyle}{\SetAcronymStyle}%
}
\define@boolkey{glossaries.sty}[glsacr]{shortcuts}[true]{}
\newcommand*{\glsorder}{word}
\newcommand*{\@glsorder}[1]{}
\define@choicekey{glossaries.sty}{order}{word,letter}{}

```



```

\def\glsorder{#1}}
\newif\ifglsxindy
\glsxindyfalse
\@gls@declareoption{makeindex}{\glsxindyfalse}
\define@boolkey[gls]{xindy}{glsnumbers}[true]{%
\gls@xindy@glsnumberstrue
\def\@xdy@main@language{\languagename}%
\define@key[gls]{xindy}{language}{\def\@xdy@main@language{#1}}
\ifcsundef{inputencodingname}{%
\def\gls@codepage{}}{%
\def\gls@codepage{\inputencodingname}
}
\define@key[gls]{xindy}{codepage}{\def\gls@codepage{#1}}
\define@key{glossaries.sty}{xindy}[]{%
\glsxindytrue
\setkeys[gls]{xindy}{#1}%
}
\@gls@declareoption{xindygloss}{%
\glsxindytrue
}
\@gls@declareoption{xindynoglsnumbers}{%
\glsxindytrue
\gls@xindy@glsnumbersfalse
}
\providecommand{\@domakeglossaries}[1]{#1}
\@gls@declareoption{disablemakegloss}{%
\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makenoidxglossaries\space has already been used)}%
}%
{%
\ifdefequal\@makeglossary\@gobble
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makeglossaries\space has already been used)}%
}%
{%
\renewcommand{\@domakeglossaries}[1]{%
\PackageInfo{glossaries}{\string\makeglossaries\space and
\string\makenoidxglossaries\space have been disabled}%
}%
}%
}%
}
\@gls@declareoption{restoremakegloss}{%
\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlossariesWarning{Option ‘restoremakegloss’ has no effect
(\string\makenoidxglossaries\space has already been used)}%
}
}

```

```

}%
{%
 \ifdefequal\@makeglossary\@gobble
 {%
 \GlossariesWarning{Option ‘restoremakegloss’ has no effect
 (\string\makeglossaries\space has already been used)}%
 }%
 {%
 \PackageInfo{glossaries}{\string\makeglossaries\space and
 \string\makenoidxglossaries\space have been restored}%
 \let\@domakeglossaries\@firstofone
 }%
}%
}
\newcommand*\@do@write@glslabels{%
 \AtEndDocument{\@do@write@glslabels}%
 \let\@do@write@glslabels\relax
}
\newcommand*\@@do@write@glslabels{%
 \newwrite\@glsl@labelsfile
 \immediate\openout\@glsl@labelsfile=\jobname.gslslabels
 \protected@edef\@glsl@fulllist{\@glo@types}%
 \ifdefempty{\@ignored@glossaries}{}%
 {\protected@eappto\@glsl@fulllist{\@ignored@glossaries}}%
 \forallglslentries[\@glsl@fulllist]{\@glslentry}%
 {%
 \ifdefempty{\@glslentry}{}%
 {%
 \ifx\do@write@glslabelsname\@gobble
 \def\@glsl@thisentryname{}%
 \else
 \letcs{\@glsl@thisentryname}{glo@\glsl@detoklabel{\@glslentry}@name}%
 \@onelevel@sanitize\@glsl@thisentryname
 \fi
 \immediate\write\@glsl@labelsfile
 {\@glslentry\do@write@glslabelsname{\@glsl@thisentryname}}%
 }%
 }%
 \immediate\closeout\@glsl@labelsfile
}
\newcommand*\do@write@glslabelsname}[1]{%
 \begingroup
 \catcode'\^^I12
 \gdef\@write@glslabelsname#1{\^^I#1}
 \endgroup
 \@glsl@declareoption{writeglslabels}{\@do@write@glslabels
 \let\do@write@glslabelsname\@gobble}
 \@glsl@declareoption{writeglslabelnames}{\@do@write@glslabels
 \let\do@write@glslabelsname\@write@glslabelsname}
 \newif\ifglslautomake

```

```

\newcommand{\gls@automake@nr}{1}
\define@choicekey{glossaries.sty}{automake}%
 [\gls@automake@val\gls@automake@nr]{true,false,immediate}[true]{%
 \ifnum\gls@automake@nr=1\relax
 \glsautomakefalse
 \else
 \glsautomaketrue
 \fi
 \ifglsautomake
 \renewcommand*\@gls@doautomake}{%
 \PackageError{glossaries}{You must use
 \string\makeglossaries\space with automake=true}
 {%
 Either remove the automake=true setting or
 add \string\makeglossaries\space to your document preamble.%
 }%
 }%
 \else
 \renewcommand*\@gls@doautomake}{}%
 \fi
}
\glsautomakefalse
\newcommand*\@gls@doautomake{}
\AtEndDocument{\@gls@doautomake}
\define@boolkey{glossaries.sty}[gls]{savewrites}[true]{%
 \ifgls savewrites
 \renewcommand*\@gls@writefiles{\@gls@writefiles}%
 \else
 \let\@gls@writefiles\@empty
 \fi
}
\gls savewritesfalse
\let\@gls@writefiles\@empty
\define@boolkey{glossaries.sty}[gls]{compatible-3.07}[true]{%
\boolfalse{glscompatible-3.07}
\define@boolkey{glossaries.sty}[gls]{compatible-2.07}[true]{%
 \ifbool{glscompatible-2.07}%
 {%
 \booltrue{glscompatible-3.07}%
 }%
}%
}
\boolfalse{glscompatible-2.07}
\let\@gls@original@makeglossary\makeglossary
\let\@gls@original@glossary@glossary
\def\makeglossary{%
 \GlossariesWarning{Use of \string\makeglossary\space with
 glossaries.sty is \MessageBreak deprecated. Use \string\makeglossaries\space
 instead. If you \MessageBreak need the original definition of
 \string\makeglossary\space use \MessageBreak the package options

```

```

kernelglossredefs=false (to \MessageBreak restore the former definition of
\string\makeglossary) and \MessageBreak nomain (if the file extensions cause a
conflict))%
\makeglossaries
}
\newcommand*{\@gls@override@glossary}[1][main]{%
\GlossariesWarning{Use of \string\glossary\space with
glossaries.sty is deprecated. \MessageBreak Indexing should be performed
with the user level \MessageBreak commands, such as \string\gls\space or
\string\glsadd. If you need the \MessageBreak original definition of
\string\glossary\space use the package \MessageBreak options
kernelglossredefs=false (to restore the \MessageBreak former definition of
\string\glossary) and nomain (if the \MessageBreak file extensions cause a
conflict))%
\gls@glossary{#1}%
}
\if@gls@docloaded
\else
\def\glossary{\@gls@override@glossary}
\fi
\define@choicekey{glossaries.sty}{kernelglossredefs}%
[\gls@debug@val\gls@debug@nr]{true,false,nowarn}[true]%
{%
\ifcase\gls@debug@nr\relax
\def\glossary{\@gls@override@glossary}%
\def\makeglossary{%
\GlossariesWarning{Use of \string\makeglossary\space with
glossaries.sty is deprecated. Use \string\makeglossaries\space
instead. If you need the original definition of
\string\makeglossary\space use the package options
kernelglossredefs=false (to prevent redefinition of
\string\makeglossary) and nomain (if the file extensions cause a
conflict))%
\makeglossaries
}%
\or
\let\glossary\gls@original@glossary
\let\makeglossary\gls@original@makeglossary
\or
\def\makeglossary{\makeglossaries}%
\renewcommand*{\@gls@override@glossary}[1][main]{%
\gls@glossary{##1}%
}%
\fi
}
\@gls@declareoption{symbols}{%
\let\@gls@do@symbolsdef\@gls@symbolsdef
}
\newcommand*{\@gls@do@symbolsdef}{}
\newcommand*{\@gls@symbolsdef}{%

```

```

\newglossary[slg]{symbols}{sls}{slo}{\glssymbolsgroupname}%
\newcommand*\{printsymbols}[1][\]{\printglossary[type=symbols,##1]}%
\newcommand*\{gls@tr@set@symbols@toctitle}{%
 \translatelet{\glossarytoctitle}{Symbols (glossaries)}%
}%
}%
\@gls@declareoption{numbers}{%
 \let\@gls@do@numbersdef\@gls@numbersdef
}
\newcommand*\{gls@do@numbersdef}{%
\newcommand*\{gls@numbersdef}{%
 \newglossary[nlg]{numbers}{nls}{nlo}{\glsnumbersgroupname}%
 \newcommand*\{printnumbers}[1][\]{\printglossary[type=numbers,##1]}%
 \newcommand*\{gls@tr@set@numbers@toctitle}{%
 \translatelet{\glossarytoctitle}{Numbers (glossaries)}%
 }%
}%
\@gls@declareoption{index}{%
 \ifx\@gls@do@indexdef\@empty
 \let\@gls@do@indexdef\@gls@indexdef
 \fi
}
\@gls@declareoption{noglossaryindex}{%
 \let\@gls@do@indexdef\relax
}
\newcommand*\{gls@do@indexdef}{%
\newcommand*\{gls@indexdef}{%
 \newglossary[ilg]{index}{ind}{idx}{\indexname}%
 \newcommand*\{printindex}[1][\]{\printglossary[type=index,##1]}%
 \newcommand*\{newterm}[2][\]{%
 \newglossaryentry{##2}%
 {type={index},name={##2},description={\nopostdesc},##1}}
 \let\@gls@do@indexdef\relax
}%
\@for\CurrentOption :=\@declaredoptions\do{%
 \ifx\CurrentOption\@empty
 \else
 \@expandtwoargs
 \in@ {,\CurrentOption ,}{,\@classoptionslist,\@curroptions,}%
 \ifin@
 \@use@ption
 \expandafter \let\csname ds@\CurrentOption\endcsname\@empty
 \fi
 \fi
}
\ProcessOptionsX
\RequirePackage{glossaries-compatible-307}[v4.49]
\disable@keys{glossaries.sty}{compatible-2.07,%
xindy,xindygloss,xindynoglsnumbers,makeindex,%
acronym,translate,notranslate,nolong,nosuper,notree,nostyles,%

```

```

nomain,noglossaryindex}
\newcommand*\setupglossaries[1]{%
 \renewcommand*\@gls@setacrstyle}{}%
 \ifglsacrshortcuts
 \def\@gls@setupshortcuts{\glsacrshortcutstrue}%
 \else
 \def\@gls@setupshortcuts{%
 \ifglsacrshortcuts
 \DefineAcronymSynonyms
 \fi
 }%
 \fi
 \glsacrshortcutsfalse
 \let\@gls@do@numbersdef\relax
 \let\@gls@do@symbolssdef\relax
 \let\@gls@do@indexdef\relax
 \let\@gls@do@acronymsdef\relax
 \ifglsentrycounter
 \let\@gls@doentrycounterdef\relax
 \else
 \let\@gls@doentrycounterdef\@gls@define@glossaryentrycounter
 \fi
 \ifglssubentrycounter
 \let\@gls@dosubentrycounterdef\relax
 \else
 \let\@gls@dosubentrycounterdef\@gls@define@glossarysubentrycounter
 \fi
 \setkeys{glossaries.sty}{#1}%
 \@gls@setacrstyle
 \@gls@setupshortcuts
 \@gls@do@acronymsdef
 \@gls@do@numbersdef
 \@gls@do@symbolssdef
 \@gls@do@indexdef
 \@gls@doentrycounterdef
 \@gls@dosubentrycounterdef
}
\ifthenelse{\equal{\glscounter}{section}}{%
 {%
 \ifcsundef{chapter}{}%
 {%
 \let\@gls@old@chapter\@chapter
 \def\@chapter[#1]#2{\@gls@old@chapter[#1]}{#2}%
 \ifcsundef{hyperdef}{\hyperdef{section}{\thesection}}{}}%
 }%
 }%
 {}
\newcommand*\@gls@onlypremakeg{}
\newcommand*\@onlypremakeg[1]{%
 \ifx\@gls@onlypremakeg\@empty

```

```

 \def\@gls@onlypremakeg{#1}%
 \else
 \expandafter\toks@\expandafter{\@gls@onlypremakeg}%
 \edef\@gls@onlypremakeg{\the\toks@,\noexpand#1}%
 \fi
}
\newcommand*\@disable@onlypremakeg}{%
\@for\@thiscs:=\@gls@onlypremakeg\do{%
 \expandafter\@disable@premakecs\@thiscs%
}}
\newcommand*\@disable@premakecs}[1]{%
 \def#1{\PackageError{glossaries}{\string#1\space may only be
 used before \string\makeglossaries}{You can't use
 \string#1\space after \string\makeglossaries}}%
}
\providecommand*\glossaryname{Glossary}
\providecommand*\acronymname{Acronyms}
\newcommand*\glssettoctitle}[1]{%
 \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}
\providecommand*\entryname{Notation}
\providecommand*\descriptionname{Description}
\providecommand*\symbolname{Symbol}
\providecommand*\pagelistname{Page List}
\providecommand*\glsymbolsgroupname{Symbols}
\providecommand*\glsnumbersgroupname{Numbers}
\newcommand*\glspluralsuffix}{s}
\newcommand*\glsacrpluralsuffix}{\glspluralsuffix}
\newcommand*\glsupacrpluralsuffix}{\glstextup{\glsacrpluralsuffix}}
\providecommand*\seename}{see}
\providecommand*\andname}{\&}
\newcommand*\RequireGlossariesLang}[1]{%
 \@ifundefined{ver@glossaries-#1.ldf}{\input{glossaries-#1.ldf}}{}%
}
\newcommand*\ProvidesGlossariesLang}[1]{%
 \ProvidesFile{glossaries-#1.ldf}%
}
\newcommand*\addglossarytocaptions}[1]{}
\ifglstranslate
 \RequirePackage{tracklang}
 \@gls@usetranslator
 \@ifpackageloaded{translator}
 {%
 \ifboolexpr
 {
 test {\ifdefstring{\trans@languages}{English}}
 and not
 test {\ifdefstring{bbl@loaded}{english}}
 }
 {%
 \let\glsifusetranslator\@secondoftwo

```

```

}%
{%
\usedictionary{glossaries-dictionary}%
\renewcommand*{\addglossarytocaptions}[1]{%
\ifcsundef{captions#1}{}%
{%
\expandafter\let\expandafter\@gls@tmp\csname captions#1\endcsname
\expandafter\toks@\expandafter{\@gls@tmp
\renewcommand*{\glossaryname}{\translate{Glossary}}}%
}%
\expandafter\edef\csname captions#1\endcsname{\the\toks@}%
}%
}%
}%
{}%
\AnyTrackedLanguages
{%
\ForEachTrackedDialect{\this@dialect}{%
\IfTrackedLanguageFileExists{\this@dialect}%
{glossaries-}% prefix
{.ldf}%
{%
\RequireGlossariesLang{\CurrentTrackedTag}%
}%
{%
\@gls@missinglang@warn\this@dialect\CurrentTrackedLanguage
}%
}%
}%
{}%
\glsifusetranslator
{%
\renewcommand*{\glssettoctitle}[1]{%
\ifcsdef{gls@tr@set@#1@toctitle}%
{%
\csuse{gls@tr@set@#1@toctitle}%
}%
{%
\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}%
}%
}%
\renewcommand*{\glossaryname}{\translate{Glossary}}%
\renewcommand*{\acronymname}{\translate{Acronyms}}%
\renewcommand*{\entryname}{\translate{Notation (glossaries)}}%
\renewcommand*{\descriptionname}{%
\translate{Description (glossaries)}}%
\renewcommand*{\symbolname}{\translate{Symbol (glossaries)}}%
\renewcommand*{\pagelistname}{%
\translate{Page List (glossaries)}}%

```



```

 \renewcommand*{\glssymbolsgroupname}{%
 \translate{Symbols (glossaries)}}%
 \renewcommand*{\glsnumbersgroupname}{%
 \translate{Numbers (glossaries)}}%
 }{}%
\fi
\DeclareRobustCommand*{\nopostdesc}{}
\newcommand*{\@nopostdesc}{%
 \let\org@glspostdescription\glspostdescription
 \def\glspostdescription{%
 \let\glspostdescription\org@glspostdescription}%
}
\newcommand*{\@no@post@desc}{\nopostdesc}
\newcommand{\glspar}{\par}
\newcommand{\setStyleFile}[1]{%
 \renewcommand*{\gls@istfilebase}{#1}%
 \ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
 \else
 \def\istfilename{\gls@istfilebase.ist}
 \fi
}
\@onlypremakeg\setStyleFile
\ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
\else
 \def\istfilename{\gls@istfilebase.ist}
\fi
\newcommand*{\gls@istfilebase}{\jobname}
\newcommand*{\@istfilename}[1]{}
\newcommand*{\glscompositor}{.}
\newcommand*{\glsSetCompositor}[1]{%
 \renewcommand*{\glscompositor}{#1}}
\@onlypremakeg\glsSetCompositor
\newcommand*{\@glsAlphaCompositor}{\glscompositor}
\ifglxindy
 \newcommand*\glsSetAlphaCompositor[1]{%
 \renewcommand*\@glsAlphaCompositor{#1}}
\else
 \newcommand*\glsSetAlphaCompositor[1]{%
 \glsnoxindywarning\glsSetAlphaCompositor}
\fi
\@onlypremakeg\glsSetAlphaCompositor
\newcommand*{\gls@suffixF}{}
\newcommand*{\glsSetSuffixF}[1]{%
 \renewcommand*{\gls@suffixF}{#1}}
\@onlypremakeg\glsSetSuffixF
\newcommand*{\gls@suffixFF}{}
\newcommand*{\glsSetSuffixFF}[1]{%
 \renewcommand*{\gls@suffixFF}{#1}}

```

```

}
\ifcsundef{hyperlink}%
{%
 \newcommand*\glsnumberformat}[1]{#1}%
}%
{%
 \newcommand*\glsnumberformat}[1]{\glsnumberformat{#1}}%
}
\newcommand{\delimN}{, }
\newcommand{\delimR}{--}
\newcommand*\glossarypreamble{%
 \csuse{@glossarypreamble@\currentglossary}%
}
\newcommand{\setglossarypreamble}[2][\glsdefaulttype]{%
 \ifglossaryexists*{#1}%
 {\csgdef{@glossarypreamble@#1}{#2}}%
 {\GlossariesWarning{Glossary ‘#1’ is not defined}}%
}
\newcommand*\glossarypostamble{}
\newcommand*\glossarysection}[2][\@gls@title]{%
 \def\@gls@title{#2}%
 \ifcsundef{phantomsection}%
 {%
 \@glossarysection{#1}{#2}%
 }%
 {%
 \@p@glossarysection{#1}{#2}%
 }%
 \gls@glossarymark{\glossarytoctitle}%
}
\ifcsundef{glossarymark}%
{%
 \newcommand*\gls@glossarymark}[1]{\glossarymark{#1}}
}%
{%
 \@ifclassloaded{memoir}
 {%
 \newcommand*\gls@glossarymark}[1]{%
 \ifglsucmark
 \markboth{\memUchead{#1}}{\memUchead{#1}}%
 \else
 \markboth{#1}{#1}%
 \fi
 }
 }%
 {%
 \newcommand*\gls@glossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\mfirstucMakeUppercase{#1}}{\mfirstucMakeUppercase{#1}}%
 \else

```

```

 \@mkboth{#1}{#1}%
 \fi
}
}
\providecommand{\glossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\mfirstucMakeUppercase{#1}}{\mfirstucMakeUppercase{#1}}%
 \else
 \@mkboth{#1}{#1}%
 \fi
}
\newcommand*\setglossarysection[1]{%
\setkeys{glossaries.sty}{section=#1}}
\newcommand*{@glossarysection}[2]{%
 \ifdefempty{@glossarysecstar
 {%
 \csname@@glossarysec\endcsname[#1]{#2}%
 }%
 {%
 \csname@@glossarysec\endcsname*{#2}%
 \@gls@toc{#1}{\@@glossarysec}%
 }%
 \@glossaryseclabel
}
\newcommand*{@p@glossarysection}[2]{%
 \glsclearpage
 \phantomsection
 \ifdefempty{@glossarysecstar
 {%
 \csname@@glossarysec\endcsname{#2}%
 }%
 {%
 \@gls@toc{#1}{\@@glossarysec}%
 \csname@@glossarysec\endcsname*{#2}%
 }%
 \@glossaryseclabel
}
\newcommand*\gls@docclearpage{%
 \ifthenelse{\equal{\@@glossarysec}{chapter}}%
 {%
 \ifcsundef{cleardoublepage}%
 {%
 \clearpage
 }%
 {%
 \ifcsdef{if@openright}%
 {%
 \if@openright
 \cleardoublepage
 }%
 }%
 }%
}

```

```

 \else
 \clearpage
 \fi
 }%
 {%
 \cleardoublepage
 }%
 }%
 }%
 {}%
}
\newcommand*\glsclearpage{\gls@doclearpage}
\newcommand*\@gls@toc}[2]{%
 \ifglstoc
 \ifglsnumberline
 \addcontentsline{toc}{#2}{\protect\numberline{#1}}%
 \else
 \addcontentsline{toc}{#2}{#1}%
 \fi
 \fi
}
\newcommand*\glsnoxindywarning}[1]{%
 \GlossariesWarning{Not in xindy mode --- ignoring \string#1}%
}
\newcommand*\glsnomakeindexwarning}[1]{%
 \GlossariesWarning{Not in makeindex mode --- ignoring \string#1}%
}
\ifglsxindy
 \edef\@xdyattributes{\string"default\string"}%
\fi
\ifglsxindy
 \edef\@xdyattributelist{}%
\fi
\ifglsxindy
 \def\@xdylocref{}
\fi
\newcommand*\@gls@ifinlist}[4]{%
 \def\@do@ifinlist##1,#1,##2\end@ifinlist{%
 \def\@gls@listsuffix{##2}%
 \ifx\@gls@listsuffix\@empty
 #4%
 \else
 #3%
 \fi
 }%
 \@do@ifinlist,#2,#1,\end@ifinlist
}
\ifglsxindy
 \newcommand*\@xdycounters{\glscounter}
 \newcommand*\GlsAddXdyCounters[1]{%

```

```

\@for\@gls@ctr:=#1\do{%
 \edef\@do@addcounter{%
 \noexpand\@gls@ifinlist{\@gls@ctr}{\@xdycounters}{}%
 {%
 \noexpand\edef\noexpand\@xdycounters{\@xdycounters,%
 \noexpand\@gls@ctr}%
 }%
 }%
 \do@addcounter
}
}
\@onlypremakeg\GlsAddXdyCounters
\else
\newcommand*\GlsAddXdyCounters[1]{%
 \glsnoxindywarning\GlsAddXdyAttribute
}
\fi
\newcommand*\@disabled@glsaddxdycounters{%
 \PackageError{glossaries}{\string\GlsAddXdyCounters\space
can't be used after \string\GlsAddXdyAttribute}{Move all
occurrences of \string\GlsAddXdyCounters\space before the first
instance of \string\GlsAddXdyAttribute}%
}
\ifglsxindy
\newcommand*\@glsaddxdyattribute[2]{%
 \edef\@xdyattributes{\@xdyattributes ^^J \string"#1\string" ^^J
\string"#2#1\string"}%
 \expandafter\toks@\expandafter{\@xdylocref}%
 \edef\@xdylocref{\the\toks@ ^^J}%
 (markup-locref
:open \string"\glstildechar n%
 \expandafter\string\csname glsX#2X#1\endcsname
 \string" ^^J
:close \string"\string" ^^J
:attr \string"#2#1\string"))%
 \expandafter\gdef\csname glsX#2X#1\endcsname##1##2{%
 \setentrycounter{##1}{#2}\csname #1\endcsname{##2}%
 }%
}
\newcommand*\GlsAddXdyAttribute[1]{%
 \ifx\@xdyattributelist\@empty
 \edef\@xdyattributelist{#1}%
 \else
 \edef\@xdyattributelist{\@xdyattributelist,#1}%
 \fi
\@for\@this@counter:=\@xdycounters\do{%
 \protected@edef\gls@do@addxdyattribute{%
 \noexpand\@glsaddxdyattribute{#1}{\@this@counter}%
 }
 \gls@do@addxdyattribute
}

```

```

 }%
 \let\GlsAddXdyCounters\@disabled@gl saddx dycounters
 }
 \@onlypremakeg\GlsAddXdyAttribute
\else
 \newcommand*\GlsAddXdyAttribute[1]{%
 \gl snoxindywarning\GlsAddXdyAttribute}
\fi
\ifgl sxindy
\newcommand*{\@gl s@addpredefinedattributes}{%
 \GlsAddXdyAttribute{gl snumberformat}
 \GlsAddXdyAttribute{textrm}
 \GlsAddXdyAttribute{textsf}
 \GlsAddXdyAttribute{texttt}
 \GlsAddXdyAttribute{textbf}
 \GlsAddXdyAttribute{textmd}
 \GlsAddXdyAttribute{textit}
 \GlsAddXdyAttribute{textup}
 \GlsAddXdyAttribute{textsl}
 \GlsAddXdyAttribute{textsc}
 \GlsAddXdyAttribute{emph}
 \GlsAddXdyAttribute{gl shypernumber}
 \GlsAddXdyAttribute{hyperm}
 \GlsAddXdyAttribute{hypersf}
 \GlsAddXdyAttribute{hypertt}
 \GlsAddXdyAttribute{hyperbf}
 \GlsAddXdyAttribute{hypermd}
 \GlsAddXdyAttribute{hyperit}
 \GlsAddXdyAttribute{hyperup}
 \GlsAddXdyAttribute{hypersl}
 \GlsAddXdyAttribute{hypersc}
 \GlsAddXdyAttribute{hyperemph}
 \GlsAddXdyAttribute{gl signore}
}
\else
 \let\@gl s@addpredefinedattributes\relax
\fi
\def\@xdyuseralphabets{}
\ifgl sxindy
 \newcommand*{\GlsAddXdyAlphabet}[2]{%
 \edef\@xdyuseralphabets{%
 \@xdyuseralphabets ^~J
 (define-alphabet "#1" (#2))}}
\else
 \newcommand*{\GlsAddXdyAlphabet}[2]{%
 \gl snoxindywarning\GlsAddXdyAlphabet}
\fi
\ifgl sxindy
 \newcommand*{\@gl s@xdy@locationlist}{%
 roman-page-numbers,%

```

```

 Roman-page-numbers,%
 arabic-page-numbers,%
 alpha-page-numbers,%
 Alpha-page-numbers,%
 Appendix-page-numbers,%
 arabic-section-numbers%
}
\protected@edef\@gls@roman{\@roman{0}\string"
 \string"roman-numbers-lowercase\string" :sep \string"}}%
\@onelevel@sanitize\@gls@roman
\edef\@gls@tmp{\string" \string"roman-numbers-lowercase\string"
 :sep \string"}%
\@onelevel@sanitize\@gls@tmp
\ifx\@gls@tmp\@gls@roman
 \expandafter
 \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
 \string"roman-numbers-lowercase\string"%
 }%
\else
 \expandafter
 \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
 :sep \string"\@gls@roman\string"%
 }%
\fi
\expandafter\def\csname @gls@xdy@Lclass@Roman-page-numbers\endcsname{%
 \string"roman-numbers-uppercase\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@arabic-page-numbers\endcsname{%
 \string"arabic-numbers\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@alpha-page-numbers\endcsname{%
 \string"alpha\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Alpha-page-numbers\endcsname{%
 \string"ALPHA\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Appendix-page-numbers\endcsname{%
 \string"ALPHA\string"
 :sep \string"\@gls@alphacompositor\string"
 \string"arabic-numbers\string"%
}
\expandafter\def\csname @gls@xdy@Lclass@arabic-section-numbers\endcsname{%
 \string"arabic-numbers\string"
 :sep \string"\glscompositor\string"
 \string"arabic-numbers\string"%
}%
\def\@xdyuserlocationdefs{}
\def\@xdyuserlocationnames{}
\fi
\ifglxindy

```

```

\newcommand\@xdycrossrefhook{}
\fi
\ifglxindy
\newcommand*\GlsAddXdyLocation}[3][{}]{%
\def\@gls@tmp{#1}%
\ifx\@gls@tmp\@empty
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep \string"{}\glsopenbrace\string" #3
:sep \string"\glsclosebrace\string"))
}%
\else
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep "\glsopenbrace"
#1
:sep "\glsclosebrace\glsopenbrace" #3
:sep "\glsclosebrace"))
}%
\fi
\edef\@xdyuserlocationnames{%
\@xdyuserlocationnames^^J\space\space\space
\string"#2\string"}%
}
\@onlypremakeg\GlsAddXdyLocation
\else
\newcommand*\GlsAddXdyLocation}[2]{%
\glsnoxywarning\GlsAddXdyLocation}
\fi
\ifglxindy
\def\@xdylocationclassorder{^^J\space\space\space
\string"roman-page-numbers\string"^^J\space\space\space
\string"arabic-page-numbers\string"^^J\space\space\space
\string"arabic-section-numbers\string"^^J\space\space\space
\string"alpha-page-numbers\string"^^J\space\space\space
\string"Roman-page-numbers\string"^^J\space\space\space
\string"Alpha-page-numbers\string"^^J\space\space\space
\string"Appendix-page-numbers\string"
\@xdyuserlocationnames^^J\space\space\space
\string"see\string"
}
\fi
\ifglxindy
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\def\@xdylocationclassorder{#1}}
\else
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
\glsnoxywarning\GlsSetXdyLocationClassOrder}

```



```

\fi
\ifglxindy
 \def\@xdysortrules{}
\fi
\ifglxindy
 \newcommand*\GlsAddSortRule[2]{%
 \expandafter\toks@\expandafter{\@xdysortrules}%
 \protected@edef\@xdysortrules{\the\toks@ ^^J
 (sort-rule \string"#1\string" \string"#2\string")}%
 }
\else
 \newcommand*\GlsAddSortRule[2]{%
 \glsnoxywarning\GlsAddSortRule}
\fi
\ifglxindy
 \def\@xdyrequiredstyles{tex}
\fi
\ifglxindy
 \newcommand*\GlsAddXdyStyle[1]{%
 \edef\@xdyrequiredstyles{\@xdyrequiredstyles,#1}}%
\else
 \newcommand*\GlsAddXdyStyle[1]{%
 \glsnoxywarning\GlsAddXdyStyle}
\fi
\ifglxindy
 \newcommand*\GlsSetXdyStyles[1]{%
 \edef\@xdyrequiredstyles{#1}}
\else
 \newcommand*\GlsSetXdyStyles[1]{%
 \glsnoxywarning\GlsSetXdyStyles}
\fi
\newcommand*\findrootlanguage{-}
\def\@xdylanguage#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyLanguage[2][\glsdefaulttype]{%
 \ifglossaryexists{#1}{%
 \expandafter\def\csname @xdy@#1@language\endcsname{#2}%
 }{%
 \PackageError{glossaries}{Can't set language type for
 glossary type '#1' --- no such glossary}{%
 You have specified a glossary type that doesn't exist}}
\else
 \newcommand*\GlsSetXdyLanguage[2][]{%
 \glsnoxywarning\GlsSetXdyLanguage}
\fi
\def\@gls@codepage#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyCodePage[1]{%
 \renewcommand*\@gls@codepage{#1}%
 }

```

```

\AtBeginDocument{%
 \ifx\gls@codepage\empty
 \ifpackageloaded{fontspec}{\def\gls@codepage{utf8}}{}%
 \fi
}
\else
 \newcommand*\GlsSetXdyCodePage[1]{%
 \glsnoxindywarning\GlsSetXdyCodePage}
\fi
\ifglsxindy
 \ifglsxindy@glsnumbers
 \def\xdylettergroups{(define-letter-group
 \string\glsnumbers\string^^J\space\space\space
 :prefixes (\string"0\string" \string"1\string"
 \string"2\string" \string"3\string" \string"4\string"
 \string"5\string" \string"6\string" \string"7\string"
 \string"8\string" \string"9\string")^^J\space\space\space
 \@xdynumbergrouporder)}
 \else
 \def\xdylettergroups{}
 \fi
\fi
\newcommand*\GlsAddLetterGroup[2]{%
 \expandafter\toks@\expandafter{\x dylettergroups}%
 \protected@edef\x dylettergroups{\the\toks@^^J%
 (define-letter-group \string"#1\string"^^J\space\space\space#2)}%
 }%
\newcommand*\forallglossaries[3][\@glo@types]{%
 \@for#2:=#1\do{\ifx#2\empty\else#3\fi}%
}
\newcommand*\forallacronyms[2]{%
 \@for#1:=\@glsacronymlists\do{\ifx#1\empty\else#2\fi}%
}
\newcommand*\forglentries[3][\glsdefaulttype]{%
 \protected@edef\@glo@list{\csname glolist@#1\endcsname}%
 \@for#2:=\@glo@list\do
 {%
 \ifdefempty{#2}{#3}%
 }%
}
\newcommand*\forallglentries[3][\@glo@types]{%
 \expandafter\forallglossaries\expandafter[#1]{\@this@glo@}%
 {%
 \forglentries[\@this@glo@]{#2}{#3}%
 }%
}
\newcommand\ifglossaryexists{%
 \@ifstar\s@ifglossaryexists\@ifglossaryexists
}

```

```

\newcommand{\@ifglossaryexists}[3]{%
 \ifcsundef{@glotype@#1@out}{#3}{#2}%
}
\newcommand{\s@ifglossaryexists}[3]{%
 \ifcsundef{glolist@#1}{#3}{#2}%
}
\newcommand*{\glsdetoklabel}[1]{#1}
\newcommand{\ifglsentryexists}[3]{%
 \ifcsundef{glo@\glsdetoklabel{#1}@name}{#3}{#2}%
}
\newcommand*{\ifglsused}[3]{%
 \ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}%
}
\newcommand{\glsdoifexists}[2]{%
 \ifglsentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}}%
}
\newcommand{\glsdoifnoexists}[2]{%
 \ifglsentryexists{#1}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’ has already
 been defined}{#2}%
}
}
\newcommand{\glsdoifexistsorwarn}[2]{%
 \ifglsentryexists{#1}{#2}{%
 \GlossariesWarning{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}%
 }%
}
\newcommand{\glsdoifexistsordo}[3]{%
 \ifglsentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}}%
 #3%
}%
}
\newcommand{\doifglossarynoexistsordo}[3]{%
 \ifglossaryexists*{#1}%
 {%
 \PackageError{glossaries}{Glossary type ‘#1’ already exists}{#2}%
 }%
 #3%
}
\newrobustcmd{\ifglshaschildren}[3]{%
 \glsdoifexists{#1}%
 {%
 \def\do@glshaschildren{#3}%

```

```

\protected@edef\@gls@thislabel{\glsdetoklabel{#1}}%
\expandafter\forglentries\expandafter
 [\csname glo@\@gls@thislabel @type\endcsname]
{\glo@label}%
{%
 \letcs\glo@parent{glo@\glo@label @parent}%
 \ifdefequal\@gls@thislabel\glo@parent
 {%
 \def\do@glshaschildren{#2}%
 \@endfortrue
 }%
 }%
 \do@glshaschildren
}%
}
\newcommand{\ifglshasparent}[3]{%
 \glsdoifexists{#1}%
 {%
 \ifcseempty{glo@\glsdetoklabel{#1}@parent}{#3}{#2}%
 }%
}
\newcommand*\{ifglshasdesc}[3]{%
 \ifcseempty{glo@\glsdetoklabel{#1}@desc}%
 {#3}%
 {#2}%
}
\newcommand*\{ifglshasdescsuppressed}[3]{%
 \ifcsequal{glo@\glsdetoklabel{#1}@desc}{\no@post@desc}%
 {#2}%
 {#3}%
}
\newrobustcmd*\{ifglshassymbol}[3]{%
 \letcs{\@glo@symbol}{glo@\glsdetoklabel{#1}@symbol}%
 \ifdefempty\@glo@symbol
 {#3}%
 {%
 \ifdefequal\@glo@symbol\@gls@default@value
 {#3}%
 {#2}%
 }%
}
\newrobustcmd*\{ifglshaslong}[3]{%
 \letcs{\@glo@long}{glo@\glsdetoklabel{#1}@long}%
 \ifdefempty\@glo@long
 {#3}%
 {%
 \ifdefequal\@glo@long\@gls@default@value
 {#3}%
 {#2}%
 }%
}

```

```

 }%
 }
 \newrobustcmd*{\ifglshasshort}[3]{%
 \letcs{\@glo@short}{glo@glstdetoklabel{#1}@short}%
 \ifdefempty\@glo@short
 {#3}%
 {%
 \ifdefequal\@glo@short\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
 }
 \newrobustcmd*{\ifglshasfield}[4]{%
 \glsdoifexists{#2}%
 {%
 \letcs{\@glo@thisvalue}{glo@glstdetoklabel{#2}@#1}%
 \ifdef\@glo@thisvalue
 {%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 {%
 \ifdefequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
 }%
 }%
 }%
 {%
 \@gls@fetchfield{\@gls@thisfield}{#1}%
 \ifdef\@gls@thisfield
 {%
 \letcs{\@glo@thisvalue}{glo@glstdetoklabel{#2}@#1}%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 {%
 \ifdefequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
 }%
 }%
 }%
 }

```

```

 }%
 }%
 }%
 {%
 \GlossariesWarning{Unknown entry field ‘#1’}%
 #4%
 }%
 }%
}
}
\newcommand*{\glscurrentfieldvalue}{}
\newcommand*{@glo@types}{,}
\newcommand*{\gls@provide@newglossary{%
 \protected@write\auxout{}{\string\providecommand\string\@newglossary[4]{}}%
 \let\@gls@provide@newglossary\relax
}
\newcommand*{\defglsentryfmt}[2][\glsdefaultttype]{%
 \csgdef{\gls@#1@entryfmt}{#2}%
}
\newcommand*{\gls@doentryfmt}[1]{\csuse{\gls@#1@entryfmt}}
\newcommand*{@gls@forbidtexext}[1]{%
 \ifboolexpr{test {\ifdefstring{#1}{tex}}
 or test {\ifdefstring{#1}{TEX}}}
 {%
 \def#1{nottex}%
 \PackageError{glossaries}%
 {Forbidden ‘.tex’ extension replaced with ‘.nottex’}%
 {I’m sorry, I can’t allow you to do something so reckless.\MessageBreak
 Don’t use ‘.tex’ as an extension for a temporary file.}%
 }%
 {%
 }%
}
\newcommand*{\gls@gobbleopt}{\new@ifnextchar[{\@gls@gobbleopt}]}
\def\@gls@gobbleopt[#1]{}
\newcommand*{\newglossary}{\@ifstar\s@newglossary\ns@newglossary}
\newcommand*{\s@newglossary}[2]{%
 \ns@newglossary[#1-glg]{#1}{#1-gls}{#1-glo}{#2}%
}
\newcommand*{\ns@newglossary}[5][glg]{%
 \doifglossarynoexistsordo{#2}%
 {%
 \ifundef\glsdefaultttype
 {%
 \gdef\glsdefaultttype{#2}%
 }{%
 \toks@{#2}\protected@edef\@glo@types{\@glo@types\the\toks@,}%
 \expandafter\gdef\csname glolist@#2\endcsname{,}%
 \expandafter\edef\csname @glo@type@#2@log\endcsname{#1}%
 \expandafter\edef\csname @glo@type@#2@in\endcsname{#3}%
 }
 }
}

```

```

\expandafter\edef\csname @glotype@#2@out\endcsname{#4}%
\expandafter\@gls@forbidtextext\csname @glotype@#2@log\endcsname
\expandafter\@gls@forbidtextext\csname @glotype@#2@in\endcsname
\expandafter\@gls@forbidtextext\csname @glotype@#2@out\endcsname
\expandafter\def\csname @glotype@#2@title\endcsname{#5}%
\@gls@provide@newglossary
\protected@write\@auxout{}\{\string\@newglossary{#2}{#1}{#3}{#4}}%
\ifcsundef{gls@#2@entryfmt}%
{%
 \defglsentryfmt[#2]{\glsentryfmt}%
}%
{}%
\@gls@defsortcount{#2}%
\@ifnextchar[{\@gls@setcounter{#2}}%
 {\@gls@setcounter{#2}[\glscounter]}%
}%
{%
 \gls@gobbleopt
}%
}
\newcommand*\altnewglossary}[3]{%
 \newglossary[#2-glg]{#1}{#2-gls}{#2-glo}{#3}%
}
\@onlypreamble{\newglossary}
\@onlypremakeg\newglossary
\newcommand*\@newglossary}[4]{
\def\@gls@setcounter#1[#2]{%
 \expandafter\def\csname @glotype@#1@counter\endcsname{#2}%
 \ifglxindy
 \GlsAddXdyCounters{#2}%
 \fi
}
\newcommand*\@gls@getcounter}[1]{%
 \csname @glotype@#1@counter\endcsname
}
\glsdefmain
\@gls@do@acronymsdef
\@gls@do@symbolsdef
\@gls@do@numbersdef
\@gls@do@indexdef
\newcommand*\@newignoredglossary}[1]{%
 \ifdefempty\@ignored@glossaries
 {%
 \protected@edef\@ignored@glossaries{#1}%
 }%
 {%
 \protected@eappto\@ignored@glossaries{,#1}%
 }%
 \csgdef{glolist@#1}{,}%
 \ifcsundef{gls@#1@entryfmt}%

```

```

{%
 \defglsentryfmt[#1]{\glsentryfmt}%
}%
{}%
\ifdefempty\@gls@nohyperlist
{%
 \renewcommand*\@gls@nohyperlist{#1}%
}%
{%
 \protected@eappto\@gls@nohyperlist{, #1}%
}%
}
\newcommand*\@ignored@glossaries{}
\newcommand*\@ifignoredglossary[3]{%
 \protected@edef\@gls@igtype{#1}%
 \expandafter\DTLifinlist\expandafter
 {\@gls@igtype}\@ignored@glossaries}{#2}{#3}%
}
\define@key{glossentry}{name}{%
\def\@glo@name{#1}%
}
\define@key{glossentry}{description}{%
\def\@glo@desc{#1}%
}
\define@key{glossentry}{descriptionplural}{%
\def\@glo@descplural{#1}%
}
\define@key{glossentry}{sort}{%
\def\@glo@sort{#1}}
\define@key{glossentry}{text}{%
\def\@glo@text{#1}%
}
\define@key{glossentry}{plural}{%
\def\@glo@plural{#1}%
}
\define@key{glossentry}{first}{%
\def\@glo@first{#1}%
}
\define@key{glossentry}{firstplural}{%
\def\@glo@firstplural{#1}%
}
\newcommand*\@gls@default@value{\relax}
\define@key{glossentry}{symbol}{%
\def\@glo@symbol{#1}%
}
\define@key{glossentry}{symbolplural}{%
\def\@glo@symbolplural{#1}%
}
\define@key{glossentry}{type}{%
\def\@glo@type{#1}}

```



```

\define@key{glossentry}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
}%
\def\@glo@counter{#1}%
}
\define@key{glossentry}{see}{%
 \gls@set@xr@key{see}{\@glo@see}{#1}%
}
\newcommand*{\gls@set@xr@key}[3]{%
 \renewcommand*{\gls@xr@key}{#1}%
 \gls@checkseeallowed
 \def#2{#3}%
 \@glo@seeautonumberlist
}
\newcommand*{\gls@xr@key}{see}
\newcommand*{\gls@checkseeallowed}{%
 \@gls@see@noindex
}
\newcommand*{\gls@checkseeallowed@preambleonly}{%
 \GlossariesWarning
 {‘\gls@xr@key’ key doesn’t have any effect when used in the document
 environment. Move the definition to the preamble
 after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@key{glossentry}{parent}{%
 \def\@glo@parent{#1}}
\define@choicekey{glossentry}{nonumberlist}{%
 [\gls@nonumberlist@val\gls@nonumberlist@nr]{true,false}[true]%
}{%
 \ifcase\gls@nonumberlist@nr\relax
 \def\@glo@prefix{\glsnonextpages}%
 \@gls@savenonumberlist{true}%
 \else
 \def\@glo@prefix{\glsnextpages}%
 \@gls@savenonumberlist{false}%
 \fi
}
\newcommand*{\@gls@savenonumberlist}[1]{%
\newcommand*{\@gls@initnonumberlist}{%
\newcommand*{\@gls@storenonumberlist}[1]{%

```

```

\newcommand*{\@gls@enablesavenonumberlist}{%
 \renewcommand*{\@gls@initnonumberlist}{%
 \undef\@glo@nonumberlist
 }%
 \renewcommand*{\@gls@savenonumberlist}[1]{%
 \def\@glo@nonumberlist{##1}%
 }%
 \renewcommand*{\@gls@storenonumberlist}[1]{%
 \ifdef\@glo@nonumberlist
 {%
 \cslet{glo@\glsdetoklabel{##1}@nonumberlist}{\@glo@nonumberlist}%
 }%
 }%
 }%
 \appto\@gls@keymap{,{nonumberlist}{nonumberlist}}%
}
\define@key{glossentry}{user1}{%
 \def\@glo@useri{#1}%
}
\define@key{glossentry}{user2}{%
 \def\@glo@userii{#1}%
}
\define@key{glossentry}{user3}{%
 \def\@glo@useriii{#1}%
}
\define@key{glossentry}{user4}{%
 \def\@glo@useriv{#1}%
}
\define@key{glossentry}{user5}{%
 \def\@glo@userv{#1}%
}
\define@key{glossentry}{user6}{%
 \def\@glo@uservi{#1}%
}
\define@key{glossentry}{short}{%
 \def\@glo@short{#1}%
}
\define@key{glossentry}{shortplural}{%
 \def\@glo@shortpl{#1}%
}
\define@key{glossentry}{long}{%
 \def\@glo@long{#1}%
}
\define@key{glossentry}{longplural}{%
 \def\@glo@longpl{#1}%
}
\newcommand*{\@gls@noname}{%
 \PackageError{glossaries}{name key required in
 \string\newglossaryentry\space for entry '\@glo@label'}{You
 haven't specified the entry name}
}

```

```

\newcommand*\@glsnodesc{%
 \PackageError{glossaries}
 {%
 description key required in \string\newglossaryentry\space
 for entry '\@glo@label'%
 }%
 {%
 You haven't specified the entry description%
 }%
}%
\newcommand*{\@glsdefaultplural}{}
\newcommand*{\@gls@missingnumberlist}[1]{%
 ??%
 \ifglssavenumberlist
 \GlossariesWarning{Missing number list for entry '#1'.
 Maybe makeglossaries + rerun required}%
 \else
 \PackageError{glossaries}%
 {Package option 'savenumberlist=true' required}%
 {%
 You must use the 'savenumberlist' package option
 to reference location lists.%
 }%
 \fi
}
\newcommand*{\@glsdefaultsort}{\@glo@name}
\newcount\gls@level
\newcommand{\@gls@noexpand@field}[3]{%
 \expandafter\global\expandafter
 \let\csname glo@#1@#2\endcsname#3%
}
\newcommand{\@gls@noexpand@fields}[4]{%
 \ifcsdef{gls@assign@#3@field}
 {%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
 }%
 {%
 \csuse{gls@assign@#3@field}{#2}{#4}%
 }%
 }%
 {%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \@gls@noexpand@field{#2}{#3}{\@gls@value}%
 }%
 {%
 }
}

```

```

 \@@gls@noexpand@field{#2}{#3}{#4}%
 }%
}
\newcommand{\@@gls@expand@field}[3]{%
\expandafter
\protected@xdef\csname glo@#1@#2\endcsname{#3}%
}
\newcommand{\@gls@expand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%
\csuse{gls@assign@#3@field}{#2}{\@gls@value}%
}%
{%
\expandafter\@gls@startswithexpandonce#4\relax\relax\gls@endcheck
{%
\@@gls@expand@field{#2}{#3}{#4}%
}%
{%
\csuse{gls@assign@#3@field}{#2}{#4}%
}%
}%
}%
\ifdefequal{#4}{\@gls@default@value}%
{%
\@@gls@expand@field{#2}{#3}{#1}%
}%
{%
\@@gls@expand@field{#2}{#3}{#4}%
}%
}%
}
\def\@gls@expandonce{\expandonce}
\def\@gls@startswithexpandonce#1#2\gls@endcheck#3#4{%
\def\@gls@tmp{#1}%
\ifdefequal{\@gls@expandonce}{\@gls@tmp}{#3}{#4}%
}
\let\gls@assign@field\@gls@expand@fields
\newcommand*\{gls@expandfields}{%
\let\gls@assign@field\@gls@expand@fields
}
\newcommand*\{gls@noexpandfields}{%
\let\gls@assign@field\@gls@noexpand@fields
}
\newrobustcmd{\newglossaryentry}[2]{%
\glsdoifnoexists{#1}%

```

```

 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
 }
\newcommand*\gls@defdocnewglossaryentry{%
 \let\newglossaryentry\new@glossaryentry
}
\newrobustcmd{\provideglossaryentry}[2]{%
 \ifglsentryexists{#1}%
 {%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
 }
}
\@onlypreamble{\provideglossaryentry}
\newcommand*\gls@glsdefs@labellist{}
\newcommand*\gls@glsdefs@addlabel}[1]{\listxadd{\gls@glsdefs@labellist}{#1}}
\newcommand*\gls@docdef@labellist{}
\newcommand*\gls@docdef@addlabel}[1]{\listxadd{\gls@docdef@labellist}{#1}}
\newrobustcmd{\new@glossaryentry}[2]{%
 \ifundef\@gls@deffile
 {%
 \global\newwrite\@gls@deffile
 \immediate\openout\@gls@deffile=\jobname.glsdefs
 }%
 {%
 \ifglsentryexists{#1}%
 {%
 \xifinlist{#1}{\gls@docdef@labellist}%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in the
 document environment (ignoring new definition)}%
 }%
 {%
 \xifinlist{#1}{\gls@glsdefs@labellist}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 \gls@docdef@addlabel{#1}%
 \@gls@writedef{#1}%
 }%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in
 the preamble (in which case remove the duplicate definition)
 or you have just updated to glossaries.sty
 v4.47 (in which case delete ‘\jobname.glsdefs’)}%
 }%
 }%
 }%
 }%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}

```

```

 \gls@docdef@addlabel{#1}%
 \@gls@writedef{#1}%
 }%
}
\AtBeginDocument{\gls@begindocdefs}
\AtEndDocument{\ifdef\@gls@deffile{\closeout\@gls@deffile}{}}
\newcommand*\gls@begindocdefs{%
 \gls@enablesavenonumberlist
 \edef\@gls@restreat{\noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
 \makeatletter
 \InputIfFileExists{\jobname.glsdefs}{-}{-}%
 \@gls@restreat
 \undef\@gls@restreat
 \gls@defdocnewglossaryentry
}
\newcommand*\glsdefs@newdocentry}[2]{%
 \ifglsentryexists{#1}%
 {\GlossariesWarning{entry ‘#1’ has already been defined in the preamble
 (if you have moved the definition there from the document
 environment, delete \jobname.glsdefs)}}%
 {%
 \gls@glsdefs@addlabel{#1}%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\newcommand*\@gls@writedef}[1]{%
 \immediate\write\@gls@deffile
 {%
 \string\glsdefs@newdocentry{\glsdetoklabel{#1}}\glspercentchar^^J%
 \expandafter\@gobble\string{\glspercentchar%
 }%
 \@for\@gls@map:=\@gls@keymap\do
 {%
 \letcs\glo@value{glo@\glsdetoklabel{#1}}\expandafter\@secondoftwo\@gls@map}%
 \ifdef\glo@value
 {%
 \@onelevel@sanitize\glo@value
 \immediate\write\@gls@deffile
 {%
 \expandafter\@firstoftwo\@gls@map
 =\expandafter\@gobble\string{\glo@value\expandafter\@gobble\string\},%
 \glspercentchar
 }%
 }%
 }%
}
\gls@writedefhook
\immediate\write\@gls@deffile
{%
 \glspercentchar^^J%
}

```

```

 \expandafter\@gobble\string\}\glspercentchar^^J%
 }%
}
\newcommand*{\@gls@keymap}{%
 {name}{name},%
 {sort}{sortvalue},% unescaped sort value
 {type}{type},%
 {first}{first},%
 {firstplural}{firstpl},%
 {text}{text},%
 {plural}{plural},%
 {description}{desc},%
 {descriptionplural}{descplural},%
 {symbol}{symbol},%
 {symbolplural}{symbolplural},%
 {user1}{useri},%
 {user2}{userii},%
 {user3}{useriii},%
 {user4}{useriv},%
 {user5}{userv},%
 {user6}{uservi},%
 {long}{long},%
 {longplural}{longpl},%
 {short}{short},%
 {shortplural}{shortpl},%
 {counter}{counter},%
 {parent}{parent}%
}
\newcommand*{\@gls@fetchfield}[2]{%
 \edef\@gls@thisval{#2}%
 \@for\@gls@map:=\@gls@keymap\do{%
 \edef\@this@key{\expandafter\@firstoftwo\@gls@map}%
 \ifdefequal{\@this@key}{\@gls@thisval}%
 {%
 \edef#1{\expandafter\@secondoftwo\@gls@map}%
 \@endfortrue
 }%
 }%
}%
}
\newcommand*{\glsaddstoragekey}{\@ifstar\@sglsaddstoragekey\@glsaddstoragekey}
\newcommand*{\@sglsaddstoragekey}[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
}%
}

```

```

\@glsaddstoragekey{#1}%
}
\newcommand*{\@glsaddstoragekey}[3]{%
\key@ifundefined{glossentry}{#1}%
{%
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
\appto\@newglossaryentryposthook{%
\letcs{\@glo@tmp}{@glo@#1}%
\gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
}%
{%
\PackageError{glossaries}{Key ‘#1’ already exists}{}%
}%
}
\newcommand*{\glsaddkey}{\@ifstar\@sglsaddkey\@glsaddkey}
\newcommand*{\@sglsaddkey}[1]{%
\key@ifundefined{glossentry}{#1}%
{%
\expandafter\newcommand\expandafter*\expandafter
{\csname gls@assign@#1@field\endcsname}[2]{%
\@gls@expand@field{##1}{#1}{##2}%
}%
}%
{}%
\@glsaddkey{#1}%
}
\newcommand*{\@glsaddkey}[7]{%
\key@ifundefined{glossentry}{#1}%
{%
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
\appto\@newglossaryentryposthook{%
\letcs{\@glo@tmp}{@glo@#1}%
\gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
\newcommand*{#4}[1]{\@Gls@entry@field{##1}{#1}}%
\ifcsdef{@gls@user@#1@}%
{%
\PackageError{glossaries}%
{Can’t define ‘\string#5’ as helper command
‘\expandafter\string\csname @gls@user@#1@\endcsname’ already exists}%
{}%
}%
{}%
}

```



```

\expandafter\newcommand\expandafter*\expandafter
 {\csname @gls@user@#1\endcsname}[2] []{%
 \new@ifnextchar[%
 {\csuse{@gls@user@#1@}{##1}{##2}}%
 {\csuse{@gls@user@#1@}{##1}{##2} []}}%
\csdef{@gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#3{##2}##3}%
}%
\newrobustcmd*{#5}{%
 \expandafter\@gls@hyp@opt\csname @gls@user@#1\endcsname}%
}%
\ifcsdef{@Gls@user@#1@}%
{%
 \PackageError{glossaries}%
 {Can't define '\string#6' as helper command
 '\expandafter\string\csname @Gls@user@#1\endcsname' already exists}%
 {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
 {\csname @Gls@user@#1\endcsname}[2] []{%
 \new@ifnextchar[%
 {\csuse{@Gls@user@#1@}{##1}{##2}}%
 {\csuse{@Gls@user@#1@}{##1}{##2} []}}%
\csdef{@Gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#4{##2}##3}%
}%
\newrobustcmd*{#6}{%
 \expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
}%
\ifcsdef{@GLS@user@#1@}%
{%
 \PackageError{glossaries}%
 {Can't define '\string#7' as helper command
 '\expandafter\string\csname @GLS@user@#1\endcsname' already exists}%
 {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
 {\csname @GLS@user@#1\endcsname}[2] []{%
 \new@ifnextchar[%
 {\csuse{@GLS@user@#1@}{##1}{##2}}%
 {\csuse{@GLS@user@#1@}{##1}{##2} []}}%
\csdef{@GLS@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{\mfirstucMakeUppercase{#3{##2}##3}}%
}%
\newrobustcmd*{#7}{%
 \expandafter\@gls@hyp@opt\csname @GLS@user@#1\endcsname}%
}%
}%

```

```

 {%
 \PackageError{glossaries}{Key ‘#1’ already exists}{-}%
 }%
 }
\newcommand{\glsfieldxdef}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \protected@csxdef{glo@\glo@label @#2}{#3}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{-}%
 }%
 }%
}
\newcommand{\glsfielddedef}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \protected@csedef{glo@\glo@label @#2}{#3}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{-}%
 }%
 }%
}
\newcommand{\glsfieldgdef}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \expandafter\gdef\csname glo@\glo@label @#2\endcsname{#3}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{-}%
 }%
 }%
}
\newcommand{\glsfieldddef}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \expandafter\def\csname glo@\glo@label @#2\endcsname{#3}%
 }%
 }%
}

```

```

}%
{%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
}%
}%
}
\newcommand{\glsfieldfetch}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \letcs#3{glo@\@glo@label @#2}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand*{\glsunexpandedfieldvalue}[2]{%
 \ifcsname glo@\glsdetoklabel{#1}@#2\endcsname
 \expandafter\expandonce\csname glo@\glsdetoklabel{#1}@#2\expandafter\endcsname
 \fi
}
\newcommand{\ifglsfieldeq}[5]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \ifcsstring{glo@\@glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand{\ifglsfielddfeq}[5]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\ifdefstrequal
 \csname glo@\@glo@label @#2\endcsname{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
}%
}

```

```

}
\newcommand{\ifglsfieldcseq}[5]{%
\glsdoifexists{#1}%
{%
\protected@edef\glo@label{\glsdetoklabel{#1}}%
\ifcsdef{glo@\glo@label @#2}%
{%
\ifcsstrequal{glo@\glo@label @#2}{#3}{#4}{#5}%
}%
{%
\PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
}%
}%
}
\newcommand*{\glswritedefhook}{}
\newcommand*{\gls@assign@desc}[1]{%
\gls@assign@field{#1}{desc}{\glo@desc}%
\gls@assign@field{\glo@desc}{#1}{descplural}{\glo@descplural}%
}
\newcommand{\longnewglossaryentry}[3]{%
\glsdoifnoexists{#1}%
{%
\bgrou
\let\org@newglossaryentryprehook\@newglossaryentryprehook
\long\def\@newglossaryentryprehook{%
\long\def\glo@desc{#3\leavevmode\unskip\nopostdesc}%
\org@newglossaryentryprehook
}%
\renewcommand*{\gls@assign@desc}[1]{%
\global\cslet{glo@\glsdetoklabel{#1}@desc}{\glo@desc}%
\global\cslet{glo@\glsdetoklabel{#1}@descplural}{\glo@desc}%
}
\gls@defglossaryentry{#1}{#2}%
\egrou
}
}
\@onlypreamble{\longnewglossaryentry}
\newcommand{\longprovideglossaryentry}[3]{%
\ifglsentryexists{#1}{%
{\longnewglossaryentry{#1}{#2}{#3}}%
}
}
\@onlypreamble{\longprovideglossaryentry}
\newcommand{\gls@defglossaryentry}[2]{%
\let\GlsSetQuote\gls@nosetquote
\protected@edef\glo@label{\glsdetoklabel{#1}}%
\let\glslabel\glo@label
\let\glo@name\gls@name
\let\glo@desc\gls@desc
\let\glo@descplural\gls@default@value
\let\glo@type\gls@default@value

```

```

\let@glo@symbol@gls@default@value
\let@glo@symbolplural@gls@default@value
\let@glo@text@gls@default@value
\let@glo@plural@gls@default@value
\let@glo@first@gls@default@value
\let@glo@firstplural@gls@default@value
\let@glo@sort@gls@default@value
\let@glo@counter@gls@default@value
\def@glo@see{}%
\def@glo@parent{}%
\def@glo@prefix{}%
@gls@initnonumberlist
\def@glo@useri{}%
\def@glo@userii{}%
\def@glo@useriii{}%
\def@glo@useriv{}%
\def@glo@userv{}%
\def@glo@uservi{}%
\def@glo@short{}%
\def@glo@shortpl{}%
\def@glo@long{}%
\def@glo@longpl{}%
@newglossaryentryprehook
\setkeys{glossentry}{#2}%
\ifundef@glsdefaulttype
{%
 \PackageError{glossaries}%
 {No default glossary type (have you used ‘nomain’ by mistake?)}%
 {If you use package option ‘nomain’ you must define
 a new glossary before you can define entries}%
}%
{}%
\gls@assign@field{\glsdefaulttype}{\glo@label}{type}{\glo@type}%
\protected@edef@glo@type{\glsentrytype{\glo@label}}%
\ifcsundef{glo@list@\glo@type}%
{%
 \PackageError{glossaries}%
 {Glossary type ‘\glo@type’ has not been defined}%
 {You need to define a new glossary type, before making entries
 in it}%
}%
{}%
\ifignoredglossary@glo@type
{%
 \ifx@glo@desc@glsnodesc
 \let@glo@desc@empty
 \fi
}%
{}%
{}%

```

```

\protected@edef\glo@list@{\csname glo@list@\@glo@type\endcsname}%
\expandafter\protected@xdef\csname glo@list@\@glo@type\endcsname{%
 \glo@list@{\@glo@label},}%
}%
\gls@level=0\relax
\ifx\@glo@parent\@empty
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
\else
 \ifdefequal\@glo@label\@glo@parent%
 {%
 \PackageError{glossaries}{Entry ‘\@glo@label’ can’t be its own parent}{}%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
 }%
 {%
 \ifglsentryexists{\@glo@parent}%
 {%
 \expandafter\protected@xdef\csname glo@\@glo@label @parent\endcsname{%
 \@glo@parent}%
 \gls@level=\csname glo@\@glo@parent @level\endcsname\relax
 \advance\gls@level by 1\relax
 \ifx\@glo@name\@gls@noname
 \expandafter\let\expandafter\@glo@name
 \csname glo@\@glo@parent @name\endcsname
 \ifx\@glo@plural\@gls@default@value
 \expandafter\let\expandafter\@glo@plural
 \csname glo@\@glo@parent @plural\endcsname
 \fi
 \fi
 }%
 }%
 {%
 \PackageError{glossaries}%
 {%
 Invalid parent ‘\@glo@parent’
 for entry ‘\@glo@label’ - parent doesn’t exist%
 }%
 }%
 {%
 Parent entries must be defined before their children%
 }%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
}
}%
\fi
\expandafter\xdef\csname glo@\@glo@label @level\endcsname{\number\gls@level}%
\gls@assign@field{\@glo@name}{\@glo@label}{sortvalue}{\@glo@sort}%
\letcs\@glo@sort{glo@\@glo@label @sortvalue}%
\gls@assign@field{\@glo@name}{\@glo@label}{text}{\@glo@text}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @text\endcsname\gls@pluralsuffix}%

```

```

 {\@glo@label}{plural}{\@glo@plural}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @text\endcsname}%
 {\@glo@label}{first}{\@glo@first}%
\ifx\@glo@first\@gls@default@value
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @plural\endcsname}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\else
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\@glo@label @first\endcsname\glspluralsuffix}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\fi
\ifcsundef{@glotype@\@glo@type @counter}%
{%
 \def\@glo@defaultcounter{\glscounter}%
}%
{%
\letcs\@glo@defaultcounter{@glotype@\@glo@type @counter}%
}%
\gls@assign@field{\@glo@defaultcounter}{\@glo@label}{counter}{\@glo@counter}%
\gls@assign@field{}{\@glo@label}{useri}{\@glo@useri}%
\gls@assign@field{}{\@glo@label}{userii}{\@glo@userii}%
\gls@assign@field{}{\@glo@label}{useriii}{\@glo@useriii}%
\gls@assign@field{}{\@glo@label}{useriv}{\@glo@useriv}%
\gls@assign@field{}{\@glo@label}{userv}{\@glo@userv}%
\gls@assign@field{}{\@glo@label}{uservi}{\@glo@uservi}%
\gls@assign@field{}{\@glo@label}{short}{\@glo@short}%
\gls@assign@field{}{\@glo@label}{shortpl}{\@glo@shortpl}%
\gls@assign@field{}{\@glo@label}{long}{\@glo@long}%
\gls@assign@field{}{\@glo@label}{longpl}{\@glo@longpl}%
\ifx\@glo@name\@glsnoname
 \@glsnoname
 \let\@glo@name\@gls@default@value
\fi
\gls@assign@field{}{\@glo@label}{name}{\@glo@name}%
\ifcsundef{glo@\@glo@label @numberlist}%
{%
 \csxdef{glo@\@glo@label @numberlist}{%
 \noexpand\@gls@missingnumberlist{\@glo@label}}%
}%
{%
}%
\@gls@storenonumberlist{\@glo@label}%
\def\@glo@@desc{\@glo@first}%
\ifx\@glo@desc\@glo@@desc
 \let\@glo@desc\@glo@first
\fi
\ifx\@glo@desc\@glsnodesc
 \@glsnodesc
 \let\@glo@desc\@gls@default@value

```

```

\fi
\gls@assign@desc{\@glo@label}%
\@gls@defsort{\@glo@type}{\@glo@label}%
\def\@glo@@symbol{\@glo@text}%
\ifx\@glo@symbol\@glo@@symbol
 \let\@glo@symbol\@glo@text
\fi
\gls@assign@field{\relax}{\@glo@label}{symbol}{\@glo@symbol}%
\expandafter
 \gls@assign@field\expandafter
 {\csname glo@\@glo@label @symbol\endcsname}
 {\@glo@label}{symbolplural}{\@glo@symbolplural}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagfalse\endcsname{%
 \noexpand\global
 \noexpand\let\expandafter\noexpand
 \csname ifglo@\@glo@label @flag\endcsname\noexpand\iffalse
}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagtrue\endcsname{%
 \noexpand\global
 \noexpand\let\expandafter\noexpand
 \csname ifglo@\@glo@label @flag\endcsname\noexpand\iftrue
}%
\csname glo@\@glo@label @flagfalse\endcsname
\@glo@autosee
\ifignoredglossary\@glo@type
{%
 \csdef{glo@\@glo@label @index}{}%
}
{%
 \do@glo@storeentry{\@glo@label}%
}%
\@newglossaryentry@defcounters
\@newglossaryentryposthook
}
\newcommand*{\@glo@autosee}{%
 \ifdefvoid\@glo@see{%
 {%
 \protected@edef\@do@glssee{%
 \noexpand\@gls@fixbraces\noexpand\@glo@list\@glo@see\noexpand\@nil
 \noexpand\expandafter\noexpand\@glssee\noexpand\@glo@list{\@glo@label}}%
 \do@glssee
 }%
 \@glo@autoseehook
 }%
}
\newcommand*{\@glo@autoseehook}{}
\newcommand*{\@newglossaryentryprehook}{}
\newcommand*{\@newglossaryentryposthook}{}
\newcommand*{\@newglossaryentry@defcounters}{}
\newcommand*{\glsmoveentry}[2]{%
 \protected@edef\@glo@thislabel{\glsdetoklabel{#1}}%

```



```

\protected@edef\glo@type{\csname glo@\glo@thislabel @type\endcsname}%
\def\glo@list{,}%
\forlentries[\glo@type]{\glo@label}%
{%
 \ifdequal\@glo@thislabel\glo@label
 {\protected@eappto\glo@list{\glo@label,}}%
 }%
\cslet\glo@list@\glo@type{\glo@list}%
\csdef\glo@\@glo@thislabel @type{#2}%
}
\ifglxindy
 \newcommand*\@glossaryentryfield{\string\glossentry}
\else
 \newcommand*\@glossaryentryfield{\string\glossentry}
\fi
\ifglxindy
 \newcommand*\@glossarysubentryfield{%
 \string\subglossentry}
\else
 \newcommand*\@glossarysubentryfield{%
 \string\subglossentry}
\fi
\newcommand{\@glo@storeentry}[1]{%
 \protected@edef\@glo@esclabel{#1}%
 \@gls@checkmkidxchars\@glo@esclabel
 \protected@edef\@glo@sort{\csname glo@#1@sort\endcsname}%
 \@gls@checkmkidxchars\@glo@sort
 \@gls@checkmkidxchars\@glo@prefix
 \protected@edef\@glo@parent{\csname glo@#1@parent\endcsname}%
 \ifglxindy
 \ifx\@glo@parent\@empty
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 (\string"\@glo@sort\string" %
 \string"\@glo@prefix\@glossaryentryfield{\@glo@esclabel}\string") %
 }%
 \else
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \csname glo@\@glo@parent @index\endcsname
 (\string"\@glo@sort\string" %
 \string"\@glo@prefix\@glossarysubentryfield
 {\csname glo@#1@level\endcsname}{\@glo@esclabel}\string") %
 }%
 \fi
 \else
 \ifx\@glo@parent\@empty
 \@onelevel@sanitize\@glo@prefix
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \@glo@sort\@gls@actualchar\@glo@prefix
 \@glossaryentryfield{\@glo@esclabel}%
 }%
 \fi
 \fi

```

```

\else
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
\csname glo@\glo@parent @index\endcsname\@gls@levelchar
\@glo@sort\@gls@actualchar\@glo@prefix
\@glossarysubentryfield
{\csname glo@#1@level\endcsname}\@glo@esclabel}%
}%
\fi
\fi
}
\AtBeginDocument{%
\@ifpackageloaded{amsmath}%
{\let\gls@ifnotmeasuring\@gls@ifnotmeasuring}%
{}}%
}
\newcommand*{\@gls@ifnotmeasuring}[1]{%
\ifmeasuring@
\else
#1%
\fi
}
\newcommand*\gls@ifnotmeasuring[1]{#1}
\def\@gls@patchtabularx#1\hbox#2#3!!{%
\def\TX@trial##1{#1\hbox{\let\glsunset\@gobble#2}#3}%
}
\newcommand*\glspatchtabularx{%
\ifdef\TX@trial
{%
\expandafter\@gls@patchtabularx\TX@trial{##1}!!%
\let\glspatchtabularx\relax
}%
{}}%
}
\newcommand*\glsreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glsreset{#1}%
}%
}%
}
\newcommand*\glslocalreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glslocalreset{#1}%
}%
}%
}

```

```

}
\newcommand*\glsunset}[1]{%
 \gls@ifnotmeasuring
 {%
 \glsdoifexists{#1}%
 {%
 \@glsunset{#1}%
 }%
 }%
}
\newcommand*\glslocalunset}[1]{%
 \gls@ifnotmeasuring
 {%
 \glsdoifexists{#1}%
 {%
 \@glslocalunset{#1}%
 }%
 }%
}
\newcommand*\@glslocalunset{\@glslocalunset}
\newcommand*\@glslocalunset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iftrue
}
\newcommand*\@glsunset{\@glsunset}
\newcommand*\@glsunset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagtrue\endcsname
}
\newcommand*\@glslocalreset{\@glslocalreset}
\newcommand*\@glslocalreset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iffalse
}
\newcommand*\@glsreset{\@glsreset}
\newcommand*\@glsreset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagfalse\endcsname
}
\newcommand*\glsresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsreset{\@glsentry}%
 }%
}
\newcommand*\glslocalresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalreset{\@glsentry}%
 }%
}
\newcommand*\glsunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%

```

```

 \glsunset{\@glsentry}%
 }%
}
\newcommand*\glslocalunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalunset{\@glsentry}%
 }%
}
\newcommand*\@newglossaryentry@defcounters{%
 \csdef{glo@\@glo@label @currcount}{0}%
 \csdef{glo@\@glo@label @prevcount}{0}%
}
\newcommand*\glsenableentrycount{%
 \let\@newglossaryentry@defcounters\@newglossaryentry@defcounters
 \renewcommand*\gls@defdocnewglossaryentry{%
 \renewcommand*\newglossaryentry[2]{%
 \PackageError{glossaries}{\string\newglossaryentry\space
 may only be used in the preamble when entry counting has
 been activated}{If you use \string\glsenableentrycount\space
 you must place all entry definitions in the preamble not in
 the document environment}%
 }%
 }%
}
\newcommand*\glsentrycurrcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@currcount}%
 {0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@prevcount}%
 {0}{\@gls@entry@field{##1}{prevcount}}%
}%
\renewcommand*\@glsunset}[1]{%
 \@glsunset{##1}%
 \@gls@increment@currcount{##1}%
}%
\renewcommand*\@glslocalunset}[1]{%
 \@glslocalunset{##1}%
 \@gls@local@increment@currcount{##1}%
}%
\renewcommand*\@glsreset}[1]{%
 \@glsreset{##1}%
 \csgdef{glo@\glsdetoklabel{##1}@currcount}{0}%
}%
\renewcommand*\@glslocalreset}[1]{%
 \@glslocalreset{##1}%
 \csdef{glo@\glsdetoklabel{##1}@currcount}{0}%
}%
\def\@cgls###1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax

```

```

 \cglformat{##2}{##3}%
 \glsunset{##2}%
 \else
 \@gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cgl spl@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cgl spl format{##2}{##3}%
 \glsunset{##2}%
 \else
 \@gls spl@{##1}{##2}[##3]%
 \fi
}%
\def\@cGls@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cGls format{##2}{##3}%
 \glsunset{##2}%
 \else
 \@Gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cGls spl@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax
 \cGls spl format{##2}{##3}%
 \glsunset{##2}%
 \else
 \@Gls spl@{##1}{##2}[##3]%
 \fi
}%
\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*{\@gls@entry@count}[2]{%
 \csdef{glo@glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsenableentrycount\relax
}
\@onlypreamble\glsenableentrycount
\newcommand*{\@gls@increment@currcount}[1]{%
 \csxdef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsentrycurrcount{##1}+1}%
}
\newcommand*{\@gls@local@increment@currcount}[1]{%
 \csedef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsentrycurrcount{##1}+1}%
}
\newcommand*{\@gls@write@entrycounts}{%
 \immediate\write\@auxout
 {\string\providecommand*{\string\@gls@entry@count}[2]{}}%
 \forallglsentries{\@glsentry}{%
 \ifglsused{\@glsentry}%

```

```

 {\immediate\write\@auxout
 {\string\@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}%
 }%
 }%
}
\newcommand*{\@gls@entry@count}[2]{%
\newrobustcmd*{\cgl}{\@gls@hyp@opt\@cgl}
\newcommand*{\@cgl}[2][]{%
 \new@ifnextchar[{\@cgl@#1}{#2}]{\@cgl@#1}{#2}[]}%
}
\def\@cgl@#1#2[#3]{%
 \GlossariesWarning{\string\cgl\space is defaulting to
 \string\gls\space since you haven't enabled entry counting}%
 \@cgl@#1}{#2}[#3]%
}
\newcommand*{\cglformat}[2]{%
 \ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cGls}{\@gls@hyp@opt\@cGls}
\newcommand*{\@cGls}[2][]{%
 \new@ifnextchar[{\@cGls@#1}{#2}]{\@cGls@#1}{#2}[]}%
}
\def\@cGls@#1#2[#3]{%
 \GlossariesWarning{\string\cGls\space is defaulting to
 \string\Gls\space since you haven't enabled entry counting}%
 \@cGls@#1}{#2}[#3]%
}
\newcommand*{\cGlsformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cglsp}{\@gls@hyp@opt\@cglsp}
\newcommand*{\@cglsp}[2][]{%
 \new@ifnextchar[{\@cglsp@#1}{#2}]{\@cglsp@#1}{#2}[]}%
}
\def\@cglsp@#1#2[#3]{%
 \GlossariesWarning{\string\cglsp\space is defaulting to
 \string\glsp\space since you haven't enabled entry counting}%
 \@cglsp@#1}{#2}[#3]%
}
\newcommand*{\cglspformat}[2]{%
 \ifglshaslong{#1}{\glsentrylongpl{#1}}{\glsentryfirstplural{#1}}#2%
}
\newrobustcmd*{\cGlspl}{\@gls@hyp@opt\@cGlspl}
\newcommand*{\@cGlspl}[2][]{%
 \new@ifnextchar[{\@cGlspl@#1}{#2}]{\@cGlspl@#1}{#2}[]}%
}
\def\@cGlspl@#1#2[#3]{%
 \GlossariesWarning{\string\cGlspl\space is defaulting to
 \string\Glspl\space since you haven't enabled entry counting}%
 \@cGlspl@#1}{#2}[#3]%
}

```

```

}
\newcommand*{\cGlsplformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*{\loadglsentries}[2][\@gls@default]{%
 \let\@gls@default\glsdefaulttype
 \def\glsdefaulttype{#1}\input{#2}%
 \let\glsdefaulttype\@gls@default
}
\@onlypreamble{\loadglsentries}
\newcommand*{\glstextformat}[1]{#1}
\newcommand*{\glsentryfmt}{%
 \@gls@default@entryfmt\glsdisplayfirst\glsdisplay
}
\newcommand*{\@gls@default@entryfmt}[2]{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 #2{\glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
 {%
 #1{\glsentryfirstplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
 }%
 }%
 }%
 }%
 \ifglsused\glslabel
 {%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #2{\glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #2{\Glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
 }%
 }%
}

```

```

{%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #1{\glsentryfirstplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #1{\Glsentryfirstplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}%
 }%
}%
}%
{%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase{#2{\glsentryplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
 }%
 {%
 \mfirstucMakeUppercase{#1{\glsentryfirstplural{\glslabel}}%
 {\glsentrydescplural{\glslabel}}%
 {\glsentrysymbolplural{\glslabel}}{\glsinsert}}%
 }%
}%
}%
{%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 #2{\glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
 {%
 #1{\glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
 }%
}%
{%
 \ifglsused\glslabel
 {%
 \ifbool{glscompatible-3.07}%
 {%

```



```

 \protected@edef\@glo@etext{%
 #2{\glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #2{\Glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
}%
 {%
 \ifbool{glscompatible-3.07}%
 {%
 \protected@edef\@glo@etext{%
 #1{\glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 \xmakefirstuc\@glo@etext
 }%
 {%
 #1{\Glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}%
 }%
 }%
}%
 {%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase{#2{\glsentrytext{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 }%
 {%
 \mfirstucMakeUppercase{#1{\glsentryfirst{\glslabel}}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{\glsinsert}}%
 }%
 }%
}%
 {%
 \ifglsused{\glslabel}%
 {%
 #2{\glscustomtext}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{%
 }%

```

```

 {%
 #1{\glscustomtext}%
 {\glsentrydesc{\glslabel}}%
 {\glsentrysymbol{\glslabel}}{%}
 }%
 }%
}
\newcommand*{\glsgenentryfmt}{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glsentryplural{\glslabel}\glsinsert
 }%
 {%
 \glsentryfirstplural{\glslabel}\glsinsert
 }%
 }%
 }%
 \ifglsused\glslabel
 {%
 \Glsentryplural{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirstplural{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase
 {\glsentryplural{\glslabel}\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\glsentryfirstplural{\glslabel}\glsinsert}%
 }%
 }%
}
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glsentrytext{\glslabel}\glsinsert
 }%
 }%
 }%
}

```

```

 {%
 \glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \Glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglsused\glslabel
 {%
 \mfirstucMakeUppercase{\glsentrytext{\glslabel}\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase{\glsentryfirst{\glslabel}\glsinsert}%
 }%
 }%
 }%
}
}
{%
 \glscustomtext\glsinsert
}%
}
\newcommand*{\glsgenacfmt}{%
 \ifdefempty\glscustomtext
 {%
 \ifglsused\glslabel
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \acronymfont{\glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \acronymfont{\Glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{\glsentryshortpl{\glslabel}}\glsinsert}%
 }%
 }%
 }%
 }%
 {%
 \glscapscase
 }%
}

```

```

 \acronymfont{\glsentryshort{\glslabel}}\glsinsert
 }%
 {%
 \acronymfont{\Glsentryshort{\glslabel}}\glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{\glsentryshort{\glslabel}}\glsinsert}%
 }%
}
}
}
 \glsifplural
 {%
 \glscapscase
 }%
 \genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genplacrfullformat{\glslabel}{\glsinsert}}%
 }%
}
}
 \glscapscase
 {%
 \genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genacrfullformat{\glslabel}{\glsinsert}}%
 }%
}
}
}
 \glscustomtext
}
}
}
}
}
}
\newcommand*{\genacrfullformat}[2]{%
 \glsentrylong{#1}#2\space
 (\protect\firstacronymfont{\glsentryshort{#1}})%
}
}
\newcommand*{\Genacrfullformat}[2]{%

```

```

\protected@edef\gls@text{\genacrfullformat{#1}{#2}}%
\xmakefirstuc\gls@text
}
\newcommand*\genplacrfullformat}[2]{%
\glsentrylongpl{#1}#2\space
(\protect\firstacronymfont{\glsentryshortpl{#1}})}%
}
\newcommand*\Genplacrfullformat}[2]{%
\protected@edef\gls@text{\genplacrfullformat{#1}{#2}}%
\xmakefirstuc\gls@text
}
\newcommand*\glsdisplayfirst}[4]{#1#4}
\newcommand*\glsdisplay}[4]{#1#4}
\newcommand*\defglsdisplay}[2][\glsdefaulttype]{%
\GlossariesWarning{\string\defglsdisplay\space is now obsolete.^^J
Use \string\defglsentryfmt\space instead}%
\expandafter\def\csname gls@#1@display\endcsname##1##2##3##4{#2}%
\edef\@gls@doentrydef{%
\noexpand\defglsentryfmt[#1]{%
\noexpand\ifcsdef{gls@#1@displayfirst}}%
{%
\noexpand\@gls@default@entryfmt
{\noexpand\csuse{gls@#1@displayfirst}}%
{\noexpand\csuse{gls@#1@display}}%
}%
{%
\noexpand\@gls@default@entryfmt
{\noexpand\glsdisplayfirst}%
{\noexpand\csuse{gls@#1@display}}%
}%
}%
}%
\@gls@doentrydef
}
\newcommand*\defglsdisplayfirst}[2][\glsdefaulttype]{%
\GlossariesWarning{\string\defglsdisplayfirst\space is now obsolete.^^J
Use \string\defglsentryfmt\space instead}%
\expandafter\def\csname gls@#1@displayfirst\endcsname##1##2##3##4{#2}%
\edef\@gls@doentrydef{%
\noexpand\defglsentryfmt[#1]{%
\noexpand\ifcsdef{gls@#1@display}}%
{%
\noexpand\@gls@default@entryfmt
{\noexpand\csuse{gls@#1@displayfirst}}%
{\noexpand\csuse{gls@#1@display}}%
}%
{%
\noexpand\@gls@default@entryfmt
{\noexpand\csuse{gls@#1@displayfirst}}%
{\noexpand\glsdisplay}%
}
}
}

```

```

 }%
 }%
}%
\@gls@doentrydef
}
\define@key{glslink}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
}%
{%
 \def\@gls@counter{#1}%
}%
}
\define@key{glslink}{format}{%
 \def\@glsnumberformat{#1}}
\define@boolkey{glslink}{hyper}[true]{}
\ifdef{\hyperlink}{\KV@glslink@hypertrue}{\KV@glslink@hyperfalse}
\define@boolkey{glslink}{local}[true]{}
\newcommand*{\glslinkvar}[3]{#1}
\newcommand*{\glsifhyper}[2]{%
 \glslinkvar{#1}{#2}{#1}%
 \GlossariesWarning{\string\glsifhyper\space is deprecated. Did
 you mean \string\glsifhyperon\space or \string\glslinkvar?}%
}
\newcommand*{\@gls@hyp@opt}[1]{%
 \let\glslinkvar\@firstofthree
 \let\@gls@hyp@opt@cs#1\relax
 \@ifstar{\s@gls@hyp@opt}%
 {\@ifnextchar+{\@firstoftwo{\p@gls@hyp@opt}}{#1}}%
}
\newcommand*{\s@gls@hyp@opt}[1] []{%
 \let\glslinkvar\@secondofthree
 \@gls@hyp@opt@cs[hyper=false,#1]}
\newcommand*{\p@gls@hyp@opt}[1] []{%
 \let\glslinkvar\@thirdofthree
 \@gls@hyp@opt@cs[hyper=true,#1]}
\newrobustcmd*{\glslink}{%
 \@gls@hyp@opt\@gls@@link
}
\newcommand*{\@gls@@link}[3] []{%
 \glsdoifexistsordo{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \@gls@link[#1]{#2}{#3}%
 }
}

```

```

 }{%
 \glstextformat{#3}%
 }%
 \glspostlinkhook
}
\newcommand*{\glspostlinkhook}{}
\newcommand*{@gls@link@checkfirsthyper}{%
 \ifglsused{glslabel}%
 {%
 }%
 {%
 \gls@checkisacronymlist\glstype
 \ifglshyperfirst
 \ifglsisacronymlist
 \ifglsacrfootnote
 \KV@glslink@hyperfalse
 \fi
 \fi
 \else
 \KV@glslink@hyperfalse
 \fi
 }%
 \glslinkcheckfirsthyperhook
}
\newcommand*{\glslinkcheckfirsthyperhook}{}
\newcommand*{\glslinkpostsetkeys}{}
\newcommand{\glsifhyperon}[2]{\ifKV@glslink@hyper#1\else#2\fi}
\newcommand*{\do@glsdisablehyperinlist}{%
 \expandafter\DTLifinlist\expandafter{\glstype}{\@gls@nohyperlist}%
 {\KV@glslink@hyperfalse}{}%
}
\newcommand*{@gls@setdefault@glslink@opts}{}
\def\@gls@link[#1]#2#3{%
 \leavevmode
 \protected@edef\glslabel{\glsdetoklabel{#2}}%
 \def\@gls@link@opts{#1}%
 \let\@gls@link@label\glslabel
 \def\@glsnumberformat{glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
 \protected@edef\glstype{\csname glo@\glslabel @type\endcsname}%
 \let\org@ifKV@glslink@hyper\ifKV@glslink@hyper
 \@gls@setdefault@glslink@opts
 \do@glsdisablehyperinlist
 \do@gls@link@checkfirsthyper
 \setkeys{glslink}{#1}%
 \glslinkpostsetkeys
 \@gls@saveentrycounter
 \@gls@setsort{glslabel}%
 \@do@wrglossary{#2}%
 \ifKV@glslink@hyper

```

```

 \@glslink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
 \else
 \glsdonohyperlink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
 \fi
 \let\ifKV@glslink@hyper\org@ifKV@glslink@hyper
}
\newcommand*{\glolinkprefix}{glo:}
\def\glsentrycounter{\glscounter}%
\newcommand*{@gls@saveentrycounter}{%
 \def@Gls@Hcounter{}%
 \ifthenelse{equal{\@gls@counter}{equation}}%
 {
 \ifcsundef{xatlevel@}%
 {%
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 }%
 {%
 \ifx\xatlevel@\@empty
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 \else
 \savecounters@
 \advance\c@equation by 1\relax
 \edef\theglsentrycounter{\csname the\@gls@counter\endcsname}%
 \ifcsundef{theH\@gls@counter}%
 {%
 \def@Gls@Hcounter{\theglsentrycounter}%
 }%
 {%
 \def@Gls@Hcounter{\csname theH\@gls@counter\endcsname}%
 }%
 \protected@edef\theHglsentrycounter{\@gls@Hcounter}%
 \restorecounters@
 \fi
 }%
 }%
 {%
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 }%
 \ifx@Gls@Hcounter@empty
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\theHglsentrycounter{\theglsentrycounter}%
 }%
 {%
 \protected@edef\theHglsentrycounter{\expandafter\noexpand
 \csname theH\@gls@counter\endcsname}%
 }%
 }%
}

```



```

\fi
}
\def\@set@glo@numformat#1#2#3#4{%
\expandafter\@glo@check@mkidxrangechar#3\@nil
\protected@edef#1{%
\@glo@prefix setentrycounter[#4]{#2}%
\expandafter\string\csname\@glo@suffix\endcsname
}%
\@gls@checkmkidxchars#1%
}
\def\@glo@check@mkidxrangechar#1#2\@nil{%
\if#1\relax
\def\@glo@prefix{()}%
\if\relax#2\relax
\def\@glo@suffix{glsnumberformat}%
\else
\def\@glo@suffix{#2}%
\fi
\else
\if#1\relax
\def\@glo@prefix{})%
\if\relax#2\relax
\def\@glo@suffix{glsnumberformat}%
\else
\def\@glo@suffix{#2}%
\fi
\else
\def\@glo@prefix{}\def\@glo@suffix{#1#2}%
\fi
\fi}
\newcommand*{\@gls@escbsdq}[1]{%
\def\@gls@checkedmkidx{}%
\let\gls@xdystring=#1\relax
\@onelevel@sanitize\gls@xdystring
\edef\do@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash\gls@xdystring\noexpand\@nil
\@backslashchar\@backslashchar\noexpand\null}%
\do@gls@xdycheckbackslash
\expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@xdycheckquote\gls@xdystring\@nil""\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
\@for\@gls@tmp:=\gls@protected@pagefmts\do
{%
\edef\@gls@sanitized@tmp{\expandafter\@gobble\string\\ \expandonce\@gls@tmp}%
\@onelevel@sanitize\@gls@sanitized@tmp
\edef\gls@dostubst{%
\noexpand\DTLsubstituteall\noexpand\gls@xdystring
{\@gls@sanitized@tmp}{\expandonce\@gls@tmp}%
}%
}

```

```

 \gls@dosubst
 }%
 \let#1=\gls@xdystring
}
\newcommand{\@gls@checkmkidxchars}[1]{%
 \ifglsxindy
 \@gls@escbsdq{#1}%
 \else
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkquote#1\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescquote#1\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescactual#1\@nil"??\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkactual#1\@nil??\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkbar#1\@nil||\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkescbar#1\@nil|||\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checklevel#1\@nil!!\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \expandafter\@gls@checkesclevel#1\@nil!\!\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{%
 \edef\@do@gls@checkesc{%
 \noexpand\@gls@checkesc\expandonce{#1}\noexpand\@nil
 \@backslashchar\@backslashchar\noexpand\null
 }%
 \@do@gls@checkesc
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \fi
 \def\@gls@updatechecked#1\@nil#2{\def#2{#1}}
 \newtoks\@gls@tmpb
 \def\@gls@checkquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkquote{\relax}%
 \fi
 \fi
 \def\@gls@checkquote{\relax}%
 \fi
 \fi
 \fi
 \fi
 \fi
 \fi
 \fi
 }%
}

```

```

\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar\@gls@quotechar\@gls@quotechar}%
\def\@@gls@checkquote{\@gls@checkquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar}%
\ifx\null#3\null
\def\@@gls@checkquote{\@gls@checkquote#2""\null}%
\else
\def\@@gls@checkquote{\@gls@checkquote#2"#3\null}%
\fi
\fi
\@gls@checkquote
}
\def\@gls@checkescquote#1"#2"#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@@gls@checkescquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@quotechar
\@gls@quotechar\string"\@gls@quotechar}%
\def\@@gls@checkescquote{\@gls@checkescquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@quotechar}%
\ifx\null#3\null
\def\@@gls@checkescquote{\@gls@checkescquote#2""\null}%
\else
\def\@@gls@checkescquote{\@gls@checkescquote#2"#3\null}%
\fi
\fi
\@gls@checkescquote
}
\def\@gls@checkescactual#1\?#2\?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@@gls@checkescactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar

```

```

 \@gls@quotechar\string"\@gls@actualchar}%
 \def\@gls@checkescactual{\@gls@checkescactual#3\null}%
 \fi
\else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\string"\@gls@actualchar}%
 \ifx\null#3\null
 \def\@gls@checkescactual{\@gls@checkescactual#2\?\?\null}%
 \else
 \def\@gls@checkescactual{\@gls@checkescactual#2\?#3\null}%
 \fi
\fi
\@gls@checkescactual
}
\def\@gls@checkescbar#1\|#2\|#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkescbar{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\string"\@gls@encapchar
 \@gls@quotechar\string"\@gls@encapchar}%
 \def\@gls@checkescbar{\@gls@checkescbar#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\string"\@gls@encapchar}%
 \ifx\null#3\null
 \def\@gls@checkescbar{\@gls@checkescbar#2\|\|\null}%
 \else
 \def\@gls@checkescbar{\@gls@checkescbar#2\|#3\null}%
 \fi
 \fi
\@gls@checkescbar
}
\def\@gls@checkesclevel#1\!#2\!#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkesclevel{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\string"\@gls@levelchar
 \@gls@quotechar\string"\@gls@levelchar}%
 \def\@gls@checkesclevel{\@gls@checkesclevel#3\null}%
 \fi
 \fi
}

```

```

\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@levelchar}%
\ifx\null#3\null
\def\@gls@checkesclevel{\@gls@checkesclevel#2\!\!\null}%
\else
\def\@gls@checkesclevel{\@gls@checkesclevel#2\!#3\null}%
\fi
\fi
\fi
\@gls@checkesclevel
}
\def\@gls@checkbar#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar\@gls@quotechar\@gls@encapchar}%
\def\@gls@checkbar{\@gls@checkbar#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar}%
\ifx\null#3\null
\def\@gls@checkbar{\@gls@checkbar#2|\!\null}%
\else
\def\@gls@checkbar{\@gls@checkbar#2|#3\null}%
\fi
\fi
\@gls@checkbar
}
\def\@gls@checklevel#1!#2!#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checklevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar\@gls@quotechar\@gls@levelchar}%
\def\@gls@checklevel{\@gls@checklevel#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar}%

```

```

\ifx\null#3\null
 \def\@gls@checklevel{\@gls@checklevel#2!\null}%
\else
 \def\@gls@checklevel{\@gls@checklevel#2!#3\null}%
\fi
\fi
\@gls@checklevel
}
\def\@gls@checkactual#1?#2?#3\null{%
 \gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkactual{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@actualchar\@gls@quotechar\@gls@actualchar}%
 \def\@gls@checkactual{\@gls@checkactual#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@actualchar}%
 \ifx\null#3\null
 \def\@gls@checkactual{\@gls@checkactual#2??\null}%
 \else
 \def\@gls@checkactual{\@gls@checkactual#2?#3\null}%
 \fi
 \fi
 \@gls@checkactual
}
\bgroup
\catcode'\0\relax
\catcode'\12\relax
\gdef\@gls@checkesc#1\#2\#3\null{%
 \gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkesc{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@backslashchar\@gls@quotechar\@backslashchar}%
 \def\@gls@checkesc{\@gls@checkesc#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@backslashchar}%
 \ifx\null#3\null

```

```

 |def|@gls@checkesc{|@gls@checkesc#2\\|null}%
 |else
 |def|@gls@checkesc{|@gls@checkesc#2\#3|null}%
 |fi
|fi
|@gls@checkesc
}
|egroup
\def\@gls@xdycheckquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@xdycheckquote{\relax}%
 |else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \string"\string"}%
 \def\@gls@xdycheckquote{\@gls@xdycheckquote#3\null}%
 |fi
 |else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \string"}%
 \ifx\null#3\null
 \def\@gls@xdycheckquote{\@gls@xdycheckquote#2""\null}%
 |else
 \def\@gls@xdycheckquote{\@gls@xdycheckquote#2"#3\null}%
 |fi
 |fi
 \@gls@xdycheckquote
}
\edef\def@gls@xdycheckbackslash{%
\noexpand\def\noexpand\@gls@xdycheckbackslash##1\@backslashchar
 ##2\@backslashchar##3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter
 {\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={##1}%
\noexpand\ifx\noexpand\null##2\noexpand\null
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{\relax}%
\noexpand|else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
 \@backslashchar\@backslashchar\@backslashchar\@backslashchar}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
 \noexpand\@gls@xdycheckbackslash##3\noexpand\null}%
\noexpand|fi
\noexpand|else

```

```

\newcommand\gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
 \@backslashchar\@backslashchar}%
\newcommand\gls@xdycheckbackslash{%
 \noexpand\def\noexpand\@gls@xdycheckbackslash{%
 \noexpand\@gls@xdycheckbackslash##2\@backslashchar
 \@backslashchar\noexpand\null}%
 \noexpand\else
 \noexpand\def\noexpand\@gls@xdycheckbackslash{%
 \noexpand\@gls@xdycheckbackslash##2\@backslashchar
 ##3\noexpand\null}%
 \noexpand\fi
 \noexpand\fi
 \noexpand\@gls@xdycheckbackslash
}%
}
\def\gls@xdycheckbackslash

\newlength\gls@tmplen
\newcommand*\glsdohypertarget}[2]{%
 \gls@showtarget{#1}%
 \settoheight{\gls@tmplen}{#2}%
 \raisebox{\gls@tmplen}{\hypertarget{#1}{}}#2%
}
\newcommand*\glsdohyperlink}[2]{%
 \gls@showtarget{#1}%
 \hyperlink{#1}{#2}%
}
\newcommand*\glsdonohyperlink}[2]{#2}
\ifcsundef{hyperlink}%
{%
 \let\@glslink\glsdonohyperlink
}%
{%
 \let\@glslink\glsdohyperlink
}
\ifcsundef{hypertarget}%
{%
 \let\@glstarget\@secondoftwo
}%
{%
 \let\@glstarget\glsdohypertarget
}
\newcommand*\glsdisablehyper{%
 \KV@glslink@hyperfalse
 \let\@glslink\glsdonohyperlink
 \let\@glstarget\@secondoftwo
}
\newcommand*\glsenablehyper{%
 \KV@glslink@hypertrue

```



```

\let\@glslink\glsdohyperlink
\let\@glstarget\glsdohypertarget
}
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
\newrobustcmd*{\gls}{\@gls@hyp@opt\@gls}
\newcommand*{\@gls}[2] [] {%
 \new@ifnextchar[{\@gls@{#1}{#2}}{\@gls@{#1}{#2} []}%
}
\def\@gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\gls caps case\@firstofthree
 \let\gls custom text\@empty
 \def\gls insert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \gls post link hook
}
\newrobustcmd*{\Gls}{\@gls@hyp@opt\@Gls}
\newcommand*{\@Gls}[2] [] {%
 \new@ifnextchar[{\@Gls@{#1}{#2}}{\@Gls@{#1}{#2} []}%
}
\def\@Gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\gls caps case\@secondofthree
 \let\gls custom text\@empty
 \def\gls insert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \gls post link hook
}
\newrobustcmd*{\GLS}{\@gls@hyp@opt\@GLS}

```

```

\newcommand*{\@GLS}[2] [] {%
 \new@ifnextchar[{\@GLS@{#1}{#2}}{\@GLS@{#1}{#2} []}%
}
\def\@GLS@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\glspl}{\@gls@hyp@opt\@glspl}
\newcommand*{\@glspl}[2] [] {%
 \new@ifnextchar[{\@glspl@{#1}{#2}}{\@glspl@{#1}{#2} []}%
}
\def\@glspl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Glspl}{\@gls@hyp@opt\@Glspl}
\newcommand*{\@Glspl}[2] [] {%
 \new@ifnextchar[{\@Glspl@{#1}{#2}}{\@Glspl@{#1}{#2} []}%
}
\def\@Glspl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%

```

```

\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
\let\glsifplural\@firstoftwo
\let\glsifcaps\@secondofthree
\let\glsifcustomtext\@empty
\def\glsinsert{#3}%
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\ifKV@glslink@local
 \glslocalunset{#2}%
\else
 \glsunset{#2}%
\fi
}%
\glspostlinkhook
}
\newrobustcmd*{\GLSpl}{\@gls@hyp@opt\@GLSpl}
\newcommand*{\@GLSpl}[2][]{%
 \new@ifnextchar[{\@GLSpl@{#1}{#2}}{\@GLSpl@{#1}{#2}[]}%
}
\def\@GLSpl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glsifcaps\@thirdofthree
 \let\glsifcustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else
 \glsunset{#2}%
 \fi
 }%
 \glspostlinkhook
}
\newrobustcmd*{\glsdisp}{\@gls@hyp@opt\@glsdisp}
\newcommand*{\@glsdisp}[3][]{%
 \glsdoifexists{#2}{%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glsifcaps\@firstofthree
 \def\glsifcustomtext{#3}%
 \def\glsinsert{}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \ifKV@glslink@local
 \glslocalunset{#2}%
 \else

```

```

 \glsunset{#2}%
 \fi
}%
\glspostlinkhook
}
\newcommand*{\@gls@link@nocheckfirsthyper}{}
\newcommand{\@gls@field@link}[3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \@gls@link{#1}{#2}{#3}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\glsstext}{\@gls@hyp@opt\@glsstext}
\newcommand*{\@glsstext}[2][]{%
 \new@ifnextchar[{\@glsstext@{#1}{#2}}{\@glsstext@{#1}{#2}[]]}
\def\@glsstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrytext{#2}#3}%
}
\newrobustcmd*{\GLStext}{\@gls@hyp@opt\@GLStext}
\newcommand*{\@GLStext}[2][]{%
 \new@ifnextchar[{\@GLStext@{#1}{#2}}{\@GLStext@{#1}{#2}[]]}
\def\@GLStext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentrytext{#2}#3}}%
}
\newrobustcmd*{\Glsstext}{\@gls@hyp@opt\@Glsstext}
\newcommand*{\@Glsstext}[2][]{%
 \new@ifnextchar[{\@Glsstext@{#1}{#2}}{\@Glsstext@{#1}{#2}[]]}
\def\@Glsstext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentrytext{#2}#3}%
}
\newrobustcmd*{\glsfirst}{\@gls@hyp@opt\@glsfirst}
\newcommand*{\@glsfirst}[2][]{%
 \new@ifnextchar[{\@glsfirst@{#1}{#2}}{\@glsfirst@{#1}{#2}[]]}
\def\@glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\Glsfirst}{\@gls@hyp@opt\@Glsfirst}
\newcommand*{\@Glsfirst}[2][]{%
 \new@ifnextchar[{\@Glsfirst@{#1}{#2}}{\@Glsfirst@{#1}{#2}[]]}
\def\@Glsfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirst{#2}#3}%
}
\newrobustcmd*{\GLSfirst}{\@gls@hyp@opt\@GLSfirst}
\newcommand*{\@GLSfirst}[2][]{%
 \new@ifnextchar[{\@GLSfirst@{#1}{#2}}{\@GLSfirst@{#1}{#2}[]]}
\def\@GLSfirst@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryfirst{#2}#3}}%
}
}

```

```

\newrobustcmd*\glsplural}{\@gls@hyp@opt\@glsplural}
\newcommand*\@glsplural}[2] []{%
 \new@ifnextchar[{\@glsplural@{#1}{#2}}{\@glsplural@{#1}{#2} []}]
\def\@glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryplural{#2}#3}%
}
\newrobustcmd*\Glsplural}{\@gls@hyp@opt\@Glsplural}
\newcommand*\@Glsplural}[2] []{%
 \new@ifnextchar[{\@Glsplural@{#1}{#2}}{\@Glsplural@{#1}{#2} []}]
\def\@Glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryplural{#2}#3}%
}
\newrobustcmd*\GLSplural}{\@gls@hyp@opt\@GLSplural}
\newcommand*\@GLSplural}[2] []{%
 \new@ifnextchar[{\@GLSplural@{#1}{#2}}{\@GLSplural@{#1}{#2} []}]
\def\@GLSplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryplural{#2}#3}}%
}
\newrobustcmd*\glsfirstplural}{\@gls@hyp@opt\@glsfirstplural}
\newcommand*\@glsfirstplural}[2] []{%
 \new@ifnextchar[{\@glsfirstplural@{#1}{#2}}{\@glsfirstplural@{#1}{#2} []}]
\def\@glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirstplural{#2}#3}%
}
\newrobustcmd*\Glsfirstplural}{\@gls@hyp@opt\@Glsfirstplural}
\newcommand*\@Glsfirstplural}[2] []{%
 \new@ifnextchar[{\@Glsfirstplural@{#1}{#2}}{\@Glsfirstplural@{#1}{#2} []}]
\def\@Glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirstplural{#2}#3}%
}
\newrobustcmd*\GLSfirstplural}{\@gls@hyp@opt\@GLSfirstplural}
\newcommand*\@GLSfirstplural}[2] []{%
 \new@ifnextchar[{\@GLSfirstplural@{#1}{#2}}{\@GLSfirstplural@{#1}{#2} []}]
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryfirstplural{#2}#3}}%
}
\newrobustcmd*\glsname}{\@gls@hyp@opt\@glsname}
\newcommand*\@glsname}[2] []{%
 \new@ifnextchar[{\@glsname@{#1}{#2}}{\@glsname@{#1}{#2} []}]
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryname{#2}#3}%
}
\newrobustcmd*\Glsname}{\@gls@hyp@opt\@Glsname}
\newcommand*\@Glsname}[2] []{%
 \new@ifnextchar[{\@Glsname@{#1}{#2}}{\@Glsname@{#1}{#2} []}]
\def\@Glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryname{#2}#3}%
}
\newrobustcmd*\GLSname}{\@gls@hyp@opt\@GLSname}
\newcommand*\@GLSname}[2] []{%

```

```

 \new@ifnextchar [{\@GLSname@{#1}{#2}}{\@GLSname@{#1}{#2} []}]
\def\@GLSname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryname{#2}#3}}%
}
\newrobustcmd*{\glsdesc}{\@gls@hyp@opt\@glsdesc}
\newcommand*{\@glsdesc}[2] []{%
 \new@ifnextchar [{\@glsdesc@{#1}{#2}}{\@glsdesc@{#1}{#2} []}]
\def\@glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrydesc{#2}#3}%
}
\newrobustcmd*{\GLSdesc}{\@gls@hyp@opt\@GLSdesc}
\newcommand*{\@GLSdesc}[2] []{%
 \new@ifnextchar [{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}]
\def\@GLSdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\GLSentrydesc{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\newcommand*{\@GLSdescplural}[2] []{%
 \new@ifnextchar [{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
\def\@GLSdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\GLSentrydescplural{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\newcommand*{\@GLSdescplural}[2] []{%
 \new@ifnextchar [{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
\def\@GLSdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\GLSentrydescplural{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\newcommand*{\@GLSdescplural}[2] []{%
 \new@ifnextchar [{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
\def\@GLSdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\GLSentrydescplural{#2}#3}}%
}
\newrobustcmd*{\glssymbol}{\@gls@hyp@opt\@glssymbol}
\newcommand*{\@glssymbol}[2] []{%
 \new@ifnextchar [{\@glssymbol@{#1}{#2}}{\@glssymbol@{#1}{#2} []}]
\def\@glssymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrysymbol{#2}#3}%
}
\newrobustcmd*{\Glssymbol}{\@gls@hyp@opt\@Glssymbol}
\newcommand*{\@Glssymbol}[2] []{%
 \new@ifnextchar [{\@Glssymbol@{#1}{#2}}{\@Glssymbol@{#1}{#2} []}]
\def\@Glssymbol@#1#2[#3]{%

```

```

 \@gls@field@link{#1}{#2}{\Glsentrysymbol{#2}#3}%
}
\newrobustcmd*{\GLSsymbol}{\@gls@hyp@opt\@GLSsymbol}
\newcommand*{\@GLSsymbol}[2] [] {%
 \new@ifnextchar [{\@GLSsymbol@{#1}{#2}} {\@GLSsymbol@{#1}{#2} [] }
}
\def \@GLSsymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentrysymbol{#2}#3}}%
}
\newrobustcmd*{\glssymbolplural}{\@gls@hyp@opt\@glssymbolplural}
\newcommand*{\@glssymbolplural}[2] [] {%
 \new@ifnextchar [{\@glssymbolplural@{#1}{#2}} {\@glssymbolplural@{#1}{#2} [] }
}
\def \@glssymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\Glsymbolplural}{\@gls@hyp@opt\@Glsymbolplural}
\newcommand*{\@Glsymbolplural}[2] [] {%
 \new@ifnextchar [{\@Glsymbolplural@{#1}{#2}} {\@Glsymbolplural@{#1}{#2} [] }
}
\def \@Glsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\GLSsymbolplural}{\@gls@hyp@opt\@GLSsymbolplural}
\newcommand*{\@GLSsymbolplural}[2] [] {%
 \new@ifnextchar [{\@GLSsymbolplural@{#1}{#2}} {\@GLSsymbolplural@{#1}{#2} [] }
}
\def \@GLSsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentrysymbolplural{#2}#3}}%
}
\newrobustcmd*{\glsuseri}{\@gls@hyp@opt\@glsuseri}
\newcommand*{\@glsuseri}[2] [] {%
 \new@ifnextchar [{\@glsuseri@{#1}{#2}} {\@glsuseri@{#1}{#2} [] }
}
\def \@glsuseri@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuseri{#2}#3}%
}
\newrobustcmd*{\Glsuseri}{\@gls@hyp@opt\@Glsuseri}
\newcommand*{\@Glsuseri}[2] [] {%
 \new@ifnextchar [{\@Glsuseri@{#1}{#2}} {\@Glsuseri@{#1}{#2} [] }
}
\def \@Glsuseri@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuseri{#2}#3}%
}
\newrobustcmd*{\GLSuseri}{\@gls@hyp@opt\@GLSuseri}
\newcommand*{\@GLSuseri}[2] [] {%
 \new@ifnextchar [{\@GLSuseri@{#1}{#2}} {\@GLSuseri@{#1}{#2} [] }
}
\def \@GLSuseri@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\Glsentryuseri{#2}#3}}%
}
\newrobustcmd*{\glsuserii}{\@gls@hyp@opt\@glsuserii}
\newcommand*{\@glsuserii}[2] [] {%
 \new@ifnextchar [{\@glsuserii@{#1}{#2}} {\@glsuserii@{#1}{#2} [] }
}
\def \@glsuserii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
}

```

```

\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}
\newcommand*{\@Glsuserii}[2] [] {%
 \new@ifnextchar [{\@Glsuserii@{#1}{#2}}{\@Glsuserii@{#1}{#2} []}]
\def\@Glsuserii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
\newrobustcmd*{\GLSuserii}{\@gls@hyp@opt\@GLSuserii}
\newcommand*{\@GLSuserii}[2] [] {%
 \new@ifnextchar [{\@GLSuserii@{#1}{#2}}{\@GLSuserii@{#1}{#2} []}]
\def\@GLSuserii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glentryuserii{#2}#3}}%
}
\newrobustcmd*{\glsuseriii}{\@gls@hyp@opt\@glsuseriii}
\newcommand*{\@glsuseriii}[2] [] {%
 \new@ifnextchar [{\@glsuseriii@{#1}{#2}}{\@glsuseriii@{#1}{#2} []}]
\def\@glsuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glentryuseriii{#2}#3}%
}
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
\newcommand*{\@Glsuseriii}[2] [] {%
 \new@ifnextchar [{\@Glsuseriii@{#1}{#2}}{\@Glsuseriii@{#1}{#2} []}]
\def\@Glsuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\GLSuseriii}{\@gls@hyp@opt\@GLSuseriii}
\newcommand*{\@GLSuseriii}[2] [] {%
 \new@ifnextchar [{\@GLSuseriii@{#1}{#2}}{\@GLSuseriii@{#1}{#2} []}]
\def\@GLSuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glentryuseriii{#2}#3}}%
}
\newrobustcmd*{\glsuseriv}{\@gls@hyp@opt\@glsuseriv}
\newcommand*{\@glsuseriv}[2] [] {%
 \new@ifnextchar [{\@glsuseriv@{#1}{#2}}{\@glsuseriv@{#1}{#2} []}]
\def\@glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glentryuseriv{#2}#3}%
}
\newrobustcmd*{\Glsuseriv}{\@gls@hyp@opt\@Glsuseriv}
\newcommand*{\@Glsuseriv}[2] [] {%
 \new@ifnextchar [{\@Glsuseriv@{#1}{#2}}{\@Glsuseriv@{#1}{#2} []}]
\def\@Glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuseriv{#2}#3}%
}
\newrobustcmd*{\GLSuseriv}{\@gls@hyp@opt\@GLSuseriv}
\newcommand*{\@GLSuseriv}[2] [] {%
 \new@ifnextchar [{\@GLSuseriv@{#1}{#2}}{\@GLSuseriv@{#1}{#2} []}]
\def\@GLSuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glentryuseriv{#2}#3}}%
}
\newrobustcmd*{\glsuserv}{\@gls@hyp@opt\@glsuserv}
\newcommand*{\@glsuserv}[2] [] {%

```



```

 \new@ifnextchar [{\@glsuserv@{#1}{#2}} {\@glsuserv@{#1}{#2} [] }
\def\@glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuserv{#2}#3}%
}
\newrobustcmd*{\Glsuserv}{\@gls@hyp@opt\@Glsuserv}
\newcommand*{\@Glsuserv}[2] [] {%
\new@ifnextchar [{\@Glsuserv@{#1}{#2}} {\@Glsuserv@{#1}{#2} [] }
\def\@Glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuserv{#2}#3}%
}
\newrobustcmd*{\GLSuserv}{\@gls@hyp@opt\@GLSuserv}
\newcommand*{\@GLSuserv}[2] [] {%
\new@ifnextchar [{\@GLSuserv@{#1}{#2}} {\@GLSuserv@{#1}{#2} [] }
\def\@GLSuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\mfirstucMakeUppercase{\glsentryuserv{#2}#3}}%
}
\newrobustcmd*{\glsuservi}{\@gls@hyp@opt\@glsuservi}
\newcommand*{\@glsuservi}[2] [] {%
 \new@ifnextchar [{\@glsuservi@{#1}{#2}} {\@glsuservi@{#1}{#2} [] }
\def\@glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuservi{#2}#3}%
}
\newrobustcmd*{\Glsuservi}{\@gls@hyp@opt\@Glsuservi}
\newcommand*{\@Glsuservi}[2] [] {%
 \new@ifnextchar [{\@Glsuservi@{#1}{#2}} {\@Glsuservi@{#1}{#2} [] }
\def\@Glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuservi{#2}#3}%
}
\newrobustcmd*{\acrshort}{\@gls@hyp@opt\@ns@acrshort}
\newcommand*{\@ns@acrshort}[2] [] {%
 \new@ifnextchar [{\@acrshort{#1}{#2}} {\@acrshort{#1}{#2} [] }
}
\def\@acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \let\glsifplural\@secondoftwo
 \let\gls@scaps\@firstofthree
 \let\glsinsert\@empty
 \def\gls@customtext{%
 \acronymfont{\glsentryshort{#2}}#3%
 }%
 \@gls@link{#1}{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
 }%
}

```

```

\glspostlinkhook
}
\newrobustcmd*{\Acrshort}{\@gls@hyp@opt\ns@Acrshort}
\newcommand*{\ns@Acrshort}[2] [] {%
 \new@ifnextchar[{\@Acrshort{#1}{#2}}{\@Acrshort{#1}{#2} []}]%
}
\def\@Acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glsifcaps\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\Glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshort}{\@gls@hyp@opt\ns@ACRshort}
\newcommand*{\ns@ACRshort}[2] [] {%
 \new@ifnextchar[{\@ACRshort{#1}{#2}}{\@ACRshort{#1}{#2} []}]%
}
\def\@ACRshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glsifcaps\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\acronymfont{\glsentryshort{#2}}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrshortpl}{\@gls@hyp@opt\ns@acrshortpl}
\newcommand*{\ns@acrshortpl}[2] [] {%
 \new@ifnextchar[{\@acrshortpl{#1}{#2}}{\@acrshortpl{#1}{#2} []}]%
}
\def\@acrshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo

```

```

\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
 \acronymfont{\glentryshortpl{#2}}#3%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Acrshortpl}{\@gls@hyp@opt\ns@Acrshortpl}
\newcommand*{\ns@Acrshortpl}[2] [] {%
 \new@ifnextchar[{\@Acrshortpl{#1}{#2}}{\@Acrshortpl{#1}{#2} []}%
}
\def\@Acrshortpl#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\Glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshortpl}{\@gls@hyp@opt\ns@ACRshortpl}
\newcommand*{\ns@ACRshortpl}[2] [] {%
 \new@ifnextchar[{\@ACRshortpl{#1}{#2}}{\@ACRshortpl{#1}{#2} []}%
}
\def\@ACRshortpl#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\acronymfont{\glentryshortpl{#2}}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlong}{\@gls@hyp@opt\ns@acrlong}
\newcommand*{\ns@acrlong}[2] [] {%
 \new@ifnextchar[{\@acrlong{#1}{#2}}{\@acrlong{#1}{#2} []}%
}

```

```

}
\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glstrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlong}{\@gl@hyp@opt\@ns@Acrlong}
\newcommand*{\ns@Acrlong}[2][]{%
 \new@ifnextchar[{\@Acrlong{#1}{#2}}{\@Acrlong{#1}{#2}[]}%
}
\def\@Acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glstrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlong}{\@gl@hyp@opt\@ns@ACRlong}
\newcommand*{\ns@ACRlong}[2][]{%
 \new@ifnextchar[{\@ACRlong{#1}{#2}}{\@ACRlong{#1}{#2}[]}%
}
\def\@ACRlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \mfirstucMakeUppercase{\glstrylong{#2}#3}%
 }%
 }%
}

```

```

 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlongpl}{\@gls@hyp@opt\ns@acrlongpl}
\newcommand*{\ns@acrlongpl}[2][]{%
 \new@ifnextchar[{\@acrlongpl{#1}{#2}}{\@acrlongpl{#1}{#2}[]}%
}
\def\@acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\AcrLongpl}{\@gls@hyp@opt\ns@AcrLongpl}
\newcommand*{\ns@AcrLongpl}[2][]{%
 \new@ifnextchar[{\@AcrLongpl{#1}{#2}}{\@AcrLongpl{#1}{#2}[]}%
}
\def\@AcrLongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glsapsaps\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlongpl}{\@gls@hyp@opt\ns@ACRlongpl}
\newcommand*{\ns@ACRlongpl}[2][]{%
 \new@ifnextchar[{\@ACRlongpl{#1}{#2}}{\@ACRlongpl{#1}{#2}[]}%
}
\def\@ACRlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper

```

```

\def\glslabel{#2}%
\let\glsifplural\@firstoftwo
\let\glsifcaps\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{%
 \mfirstucMakeUppercase{\glsentrylongpl{#2}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newcommand*{\@gls@entry@field}[2]{%
 \csname glo@\glsdetoklabel{#1}@#2\endcsname
}
\newcommand*{\glsletentryfield}[3]{%
 \letcs{#1}{glo@\glsdetoklabel{#2}@#3}%
}
\newcommand*{\@Gls@entry@field}[2]{%
 \glsdoifexistsordo{#1}%
 {%
 \letcs\@glo@text{glo@\glsdetoklabel{#1}@#2}%
 \ifdef\@glo@text
 {%
 \xmakefirstuc{\@glo@text}%
 }%
 {%
 ??\PackageError{glossaries}{The field ‘#2’ doesn’t exist for glossary
 entry ‘\glsdetoklabel{#1}’}{Check you have correctly spelt the entry
 label and the field name}%
 }%
 }%
 {%
 ???%
 }%
}
\newcommand*{\glsentryname}[1]{\@gls@entry@field{#1}{name}}
\newrobustcmd*{\Glsentryname}[1]{%
 \@Gls@entryname{#1}%
}
\newcommand*{\@Gls@entryname}[1]{%
 \@Gls@entry@field{#1}{name}%
}
\newcommand*{\@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \letcs\@glo@text{glo@\glsdetoklabel{#1}@name}%
 \expandafter\@gls@getbody\@glo@text{}\@nil
 \expandafter\ifx\@gls@body\glsentrylong\relax
 \expandafter\Glsentrylong\@gls@rest
 }%
 \else

```

```

\expandafter\ifx\@gls@body\glsentryshort\relax
\expandafter\Glsentryshort\@gls@rest
\else
\expandafter\ifx\@gls@body\acronymfont\relax
{%
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else
\expandafter\ifx\@gls@body\glsshortaccessdisplay\relax
{%
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else
\xmakefirstuc{\@glo@text}%
\fi
\fi
\fi
\fi
\fi
}%
{%
\@Gls@entry@field{#1}{name}%
}%
}
\newcommand*\glsentrydesc}[1]{\@Gls@entry@field{#1}{desc}}
\newrobustcmd*\Glsentrydesc}[1]{%
\@Gls@entry@field{#1}{desc}%
}
\newcommand*\glsentrydescplural}[1]{%
\@Gls@entry@field{#1}{descplural}%
}
\newrobustcmd*\Glsentrydescplural}[1]{%
\@Gls@entry@field{#1}{descplural}%
}
\newcommand*\glsentrytext}[1]{\@Gls@entry@field{#1}{text}}
\newrobustcmd*\Glsentrytext}[1]{%
\@Gls@entry@field{#1}{text}%
}
\newcommand*\glsentryplural}[1]{%
\@Gls@entry@field{#1}{plural}%
}
\newrobustcmd*\Glsentryplural}[1]{%
\@Gls@entry@field{#1}{plural}%
}
\newcommand*\glsentrysymbol}[1]{%
\@Gls@entry@field{#1}{symbol}%
}
\newrobustcmd*\Glsentrysymbol}[1]{%
\@Gls@entry@field{#1}{symbol}%
}

```

```

}
\newcommand*\glsentrysymbolplural}[1]{%
 \@gls@entry@field{#1}{symbolplural}%
}
\newrobustcmd*\Glsentrysymbolplural}[1]{%
 \@Gls@entry@field{#1}{symbolplural}%
}
\newcommand*\glsentryfirst}[1]{%
 \@gls@entry@field{#1}{first}%
}
\newrobustcmd*\Glsentryfirst}[1]{%
 \@Gls@entry@field{#1}{first}%
}
\newcommand*\glsentryfirstplural}[1]{%
 \@gls@entry@field{#1}{firstpl}%
}
\newrobustcmd*\Glsentryfirstplural}[1]{%
 \@Gls@entry@field{#1}{firstpl}%
}
\newcommand*\glscapitalisewords}[1]{%
 \capitalisewords{#1}%
}
\newrobustcmd*\@glsentrytitlecase}[2]{%
 \glsdoifexists{#1}%
 {%
 \glsfieldfetch{#1}{#2}{\@gls@value}%
 \expandafter\glscapitalisewords\expandafter{\@gls@value}%
 }%
}
\ifdef\texorpdfstring
{
 \newcommand*\glsentrytitlecase}[2]{%
 \texorpdfstring
 {\@glsentrytitlecase{#1}{#2}}%
 {\@gls@entry@field{#1}{#2}}%
 }
}
{
 \newcommand*\glsentrytitlecase}[2]{\@glsentrytitlecase{#1}{#2}}
}
\newcommand*\glsentrytype}[1]{\@gls@entry@field{#1}{type}}
\newcommand*\glsentrysort}[1]{%
 \@gls@entry@field{#1}{sort}%
}
\newcommand*\glsentryparent}[1]{%
 \@gls@entry@field{#1}{parent}%
}
\newcommand*\glsentryuseri}[1]{%
 \@gls@entry@field{#1}{useri}%
}
}

```



```

\newrobustcmd*\Glsentryuseri}[1]{%
 \@Gls@entry@field{#1}{useri}%
}
\newcommand*\glsentryuserii}[1]{%
 \@gls@entry@field{#1}{userii}%
}
\newrobustcmd*\Glsentryuseriii}[1]{%
 \@Gls@entry@field{#1}{useriii}%
}
\newcommand*\glsentryuseriiii}[1]{%
 \@gls@entry@field{#1}{useriiii}%
}
\newrobustcmd*\Glsentryuseriv}[1]{%
 \@Gls@entry@field{#1}{useriv}%
}
\newcommand*\glsentryuseriv}[1]{%
 \@gls@entry@field{#1}{useriv}%
}
\newrobustcmd*\Glsentryuseriv}[1]{%
 \@Gls@entry@field{#1}{useriv}%
}
\newcommand*\glsentryuserv}[1]{%
 \@gls@entry@field{#1}{userv}%
}
\newrobustcmd*\Glsentryuserv}[1]{%
 \@Gls@entry@field{#1}{userv}%
}
\newcommand*\glsentryuservi}[1]{%
 \@gls@entry@field{#1}{uservi}%
}
\newrobustcmd*\Glsentryuservi}[1]{%
 \@Gls@entry@field{#1}{uservi}%
}
\newcommand*\glsentryshort}[1]{\@gls@entry@field{#1}{short}}
\newrobustcmd*\Glsentryshort}[1]{%
 \@Gls@entry@field{#1}{short}%
}
\newcommand*\glsentryshortpl}[1]{\@gls@entry@field{#1}{shortpl}}
\newrobustcmd*\Glsentryshortpl}[1]{%
 \@Gls@entry@field{#1}{shortpl}%
}
\newcommand*\glsentrylong}[1]{\@gls@entry@field{#1}{long}}
\newrobustcmd*\Glsentrylong}[1]{%
 \@Gls@entry@field{#1}{long}%
}
\newcommand*\glsentrylongpl}[1]{\@gls@entry@field{#1}{longpl}}
\newrobustcmd*\Glsentrylongpl}[1]{%
 \@Gls@entry@field{#1}{longpl}%
}
\newcommand*\glsentryfull}[1]{%

```

```

\acrfullformat{\glsentrylong{#1}}{\acronymfont{\glsentryshort{#1}}}%
}
\newrobustcmd*{\Glsentryfull}[1]{%
\acrfullformat{\Glsentrylong{#1}}{\acronymfont{\glsentryshort{#1}}}%
}
\newcommand*{\glsentryfullpl}[1]{%
\acrfullformat{\glsentrylongpl{#1}}{\acronymfont{\glsentryshortpl{#1}}}%
}
\newrobustcmd*{\Glsentryfullpl}[1]{%
\acrfullformat{\Glsentrylongpl{#1}}{\acronymfont{\glsentryshortpl{#1}}}%
}
\newcommand*{\glsentrynumberlist}[1]{%
\glsdoifexists{#1}%
{%
\@gls@entry@field{#1}{numberlist}%
}%
}
\@ifpackageloaded{hyperref} {%
\newcommand*{\glsdisplaynumberlist}[1]{%
\GlossariesWarning
{%
\string\glsdisplaynumberlist\space
doesn't work with hyperref.^^JUsing
\string\glsentrynumberlist\space instead%
}%
\glsentrynumberlist{#1}%
}%
}%
{%
\newcommand*{\glsdisplaynumberlist}[1]{%
\glsdoifexists{#1}%
{%
\bgroup
\protected@edef\@glo@label{\glsdetoklabel{#1}}%
\let\@org@glsnumberformat\glsnumberformat
\def\glsnumberformat##1{##1}%
\protected@edef\the@numberlist{%
\csname glo@\@glo@label @numberlist\endcsname}%
\def\@gls@numlist@sep{}%
\def\@gls@numlist@nextsep{}%
\def\@gls@numlist@lastsep{}%
\def\@gls@thislist{}%
\def\@gls@donext@def{}%
\renewcommand\do[1]{%
\protected@edef\@gls@thislist{%
\@gls@thislist
\noexpand\@gls@numlist@sep
##1%
}%
\let\@gls@numlist@sep\@gls@numlist@nextsep

```

```

 \def\@gls@numlist@nextsep{\glsnumlistsep}%
 \@gls@donext@def
 \def\@gls@donext@def{%
 \def\@gls@numlist@lastsep{\glsnumlistlastsep}%
 }%
 }%
\expandafter \glsnumlistparser \expandafter{\the@numberlist}%
\let\@gls@numlist@sep\@gls@numlist@lastsep
\@gls@thislist
\egroup
}%
}
}
\newcommand*{\glsnumlistsep}{, }
\newcommand*{\glsnumlistlastsep}{ \& }
\newcommand*{\gls hyperlink}[2][\glsentrytext{\@glo@label}]{%
 \def\@glo@label{#2}%
 \@glslink{\glo@linkprefix\glsdetoklabel{#2}}{#1}}
\define@key{glossadd}{counter}{\def\@gls@counter{#1}}
\define@key{glossadd}{format}{\def\@glsnumberformat{#1}}
\define@key{glossadd}{types}{\def\@glo@type{#1}}
\newrobustcmd*{\glsadd}[2][{%
 \@gls@adjustmode
 \glsdoifexists{#2}%
 {%
 \def\@glsnumberformat{glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glsdetoklabel{#2}@counter\endcsname}%
 \setkeys{glossadd}{#1}%
 \@gls@saveentrycounter
 \@gls@setsort{#2}%
 \@do@wrglossary{#2}%
 }%
}
}
\newcommand*{\@gls@adjustmode}{}
\AtBeginDocument{\renewcommand*{\@gls@adjustmode}{\ifvmode\mbox{}\fi}}
\newrobustcmd*{\glsaddall}[1][{%
 \protected@edef\@glo@type{\@glo@types}%
 \setkeys{glossadd}{#1}%
 \forallglsentries[\@glo@type]{\@glo@entry}{%
 \glsadd[#1]{\@glo@entry}%
 }%
}
}
\newrobustcmd*{\glsaddallunused}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glo@entry}%
 {%
 \ifglsused{\@glo@entry}{\glsadd[format=glsignore]{\@glo@entry}}%
 }%
}
}
\newcommand*{\glsignore}[1]{}
\edef\glsopenbrace{\expandafter\@gobble\string\{}}

```

```

\edef\glsclosebrace{\expandafter\@gobble\string\}}
\edef\glsbackslash{\expandafter\@gobble\string\}
\edef\glsquote#1{\string"#1\string"}
\edef\glspercentchar{\expandafter\@gobble\string\%}
\edef\glsstildechar{\string~}
\ifglsexindy
 \newcommand*{\@glsfirstletter}{A}
\fi
\newcommand*{\GlsSetXdyFirstLetterAfterDigits}{%
 \@ifstar\s@GlsSetXdyFirstLetterAfterDigits\@GlsSetXdyFirstLetterAfterDigits}
\ifglsexindy
 \newcommand*{\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*{\@glsfirstletter}{#1}}
 \newcommand*{\s@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*{\@glsfirstletter}{#1}%
 \@onelevel@sanitize\@glsfirstletter
 }
\else
 \newcommand*{\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \glsnoindywarning\GlsSetXdyFirstLetterAfterDigits}
 \newcommand*{\s@GlsSetXdyFirstLetterAfterDigits}{%
 \@GlsSetXdyFirstLetterAfterDigits
 }
\fi
\ifglsexindy
 \newcommand*{\@xdynumbergrouporder}{:before \string"\@glsfirstletter\string"}
\fi
\newcommand*{\GlsSetXdyNumberGroupOrder}[1]{%
 \@ifstar\s@GlsSetXdyNumberGroupOrder\@GlsSetXdyNumberGroupOrder
}
\ifglsexindy
 \newcommand*{\@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*{\@xdynumbergrouporder}{#1}%
 }
 \newcommand*{\s@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*{\@xdynumbergrouporder}{#1}%
 \@onelevel@sanitize\@xdynumbergrouporder
 }
\else
 \newcommand*{\@GlsSetXdyNumberGroupOrder}[1]{%
 \glsnoindywarning\GlsSetXdyNumberGroupOrder}
 \newcommand*{\s@GlsSetXdyNumberGroupOrder}{%
 \@GlsSetXdyNumberGroupOrder}
\fi
\newcommand*{\@glsminrange}{2}
\ifglsexindy
 \newcommand*{\GlsSetXdyMinRangeLength}[1]{%
 \renewcommand*{\@glsminrange}{#1}}
\else
 \newcommand*{\GlsSetXdyMinRangeLength}[1]{%

```

```

\glsnoxywarning\GlsSetXdyMinRangeLength}
\fi

\ifglsxindy
\def\writeist{%
 \ifundef{\glswrite}{\newwrite\glswrite}{}%
 \@gls@addpredefinedattributes
 \openout\glswrite=\istfilename
 \write\glswrite{;; xindy style file created by the glossaries
 package}%
 \write\glswrite{;; for document '\jobname' on
 \the\year-\the\month-\the\day}%
 \write\glswrite{^^J; required styles^^J}
 \@for\@xdystyle:=\@xdyrequiredstyles\do{%
 \ifx\@xdystyle\@empty
 \else
 \protected@write\glswrite{{(require
 \string"\@xdystyle.xdy\string")}}%
 \fi
 }%
 \write\glswrite{^^J%
 ; list of allowed attributes (number formats)^^J}%
 \write\glswrite{(define-attributes ((\@xdyattributes)))}%
 \write\glswrite{^^J; user defined alphabets^^J}%
 \write\glswrite{\@xdyuseralphabets}%
 \write\glswrite{^^J; location class definitions^^J}%
 \@for\@gls@classI:=\@gls@xdy@locationlist\do{%
 \protected@write\glswrite{{(define-location-class
 \string"\@gls@classI\string"^^J\space\space\space
 (
 :sep "{{"
 \csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
 :sep "}"
)
 ^^J\space\space\space
 :min-range-length \@glsminrange^^J%
)
 }%
 }%
 \@for\@gls@classII:=\@gls@xdy@locationlist\do{%
 \protected@write\glswrite{{(define-location-class
 \string"\@gls@classII-\@gls@classI\string"
 ^^J\space\space\space
 (
 :sep "{"
 \csname @gls@xdy@Lclass@\@gls@classII\endcsname\space
 :sep "{{"
 \csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
 :sep "}"
)
 }%
 }%
}

```

```

 ^^J\space\space\space
 :min-range-length \@glsminrange^^J%
)
 }%
} %
} %
} %
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
:unverified)}%
\write\glswrite{(markup-crossref-list
:class \string"see\string"^^J\space\space\space
:open \string"\string\glsseeformat\string"
:close \string"{}\string")}%
\@xdycrossrefhook
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
(\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
:open \string"\string
\glossarysection[\string\glossarytoctitle]{\string
\glossarytitle}\string\glossarypreamble}%
\@for\@this@ctr:=\@xdycounters\do{%
{%
\@for\@this@attr:=\@xdyattributelist\do{%
\protected@write\glswrite{ }\string\providecommand*%
\expandafter\string
\csname glsX\@this@ctr X\@this@attr\endcsname[2]%
{%
\string\setentrycounter
[\expandafter\@gobble\string\#1]{\@this@ctr}%
\expandafter\string
\csname\@this@attr\endcsname
{\expandafter\@gobble\string\#2}%
}%
}%
}%
} %
} %
} %
\write\glswrite{%
\string\begin
{theglossary}\string\glossaryheader\glstildechar n\string" ^^J\space
\space\space:close \string"\glspercentchar\glstildechar n\string
\end{theglossary}\string\glossarypostamble
\glstildechar n\string" ^^J\space\space\space
:tree}%
\write\glswrite{(markup-letter-group-list

```

```

 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \glstildechar n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\glsclosebrace\string")}%
\write\glswrite{(markup-locref-list
 :sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
 :sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffiF
\@onelevel@sanitize\gls@suffiFF
\ifx\gls@suffiF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffiF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffiFF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffiFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
 :open-head \string"\string\glsgroupheading
 \glsopenbrace\string"^^J\space\space\space
 :close-head \string"\glsclosebrace\string")}%
\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{\@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}
\write\glswrite{\@xdysortrules}%
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
}
\else
\edef\@gls@actualchar{\string?}
\edef\@gls@encapchar{\string|}
\edef\@gls@levelchar{\string!}
\edef\@gls@quotechar{\string"}%
\let\GlsSetQuote\gls@nosetquote
\def\writeist{\relax

```

```

\ifundef{\glswrite}{\newwrite\glswrite}{\relax
\openout\glswrite=\istfilename
\write\glswrite{\glspercentchar\space makeindex style file
 created by the glossaries package}
\write\glswrite{\glspercentchar\space for document
 'jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '@gls@actualchar'}
\write\glswrite{encap '@gls@encapchar'}
\write\glswrite{level '@gls@levelchar'}
\write\glswrite{quote '@gls@quotechar'}
\write\glswrite{keyword \string\string\glossaryentry\string}
\write\glswrite{preamble \string\string\glossarysection[\string
 \glossarytoctitle]{\string\glossarytitle}\string
 \glossarypreamble\string\n\string\begin{theglossary}\string
 \glossaryheader\string\n\string}
\write\glswrite{postamble \string\string%\string\n\string
 \end{theglossary}\string\glossarypostamble\string\n
 \string}
\write\glswrite{group_skip \string\string\glsgroupskip\string\n
 \string}
\write\glswrite{item_0 \string\string%\string\n\string}
\write\glswrite{item_1 \string\string%\string\n\string}
\write\glswrite{item_2 \string\string%\string\n\string}
\write\glswrite{item_01 \string\string%\string\n\string}
\write\glswrite{item_x1
 \string\string\relax \string\glsresetentrylist\string\n
 \string}
\write\glswrite{item_12 \string\string%\string\n\string}
\write\glswrite{item_x2
 \string\string\relax \string\glsresetentrylist\string\n
 \string}
\write\glswrite{delim_0 \string\string\{\string
 \glossaryentrynumbers\string\}\string\relax \string}
\write\glswrite{delim_1 \string\string\{\string
 \glossaryentrynumbers\string\}\string\relax \string}
\write\glswrite{delim_2 \string\string\{\string
 \glossaryentrynumbers\string\}\string\relax \string}
\write\glswrite{delim_t \string\string\}\string}\string}
\write\glswrite{delim_n \string\string\delimN \string}
\write\glswrite{delim_r \string\string\delimR \string}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
 \string\string\glsgroupheading\string\}\string}
\write\glswrite{heading_suffix
 \string\string}\string\relax
 \string\glsresetentrylist \string}
\write\glswrite{symhead_positive \string\glsymbols\string}
\write\glswrite{numhead_positive \string\glsnumbers\string}
\write\glswrite{page_compositor \string\glscompositor\string}
\@gls@escbsdq\gls@suffixF

```



```

\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
}
\fi
\newcommand*\GlsSetWriteIstHook}[1]{\renewcommand*\@gls@writeisthook}{#1}}
\@onlypremakeg\GlsSetWriteIstHook
\newcommand*\@gls@writeisthook}{-}
\ifglsxindy
\newcommand*\GlsSetQuote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\newcommand*\gls@nosetquote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\else
\newcommand*\GlsSetQuote}[1]{\edef\@gls@quotechar{\string#1}%
\ifpackageloaded{tracklang}%
{%
 \IfTrackedLanguage{german}%
 {%
 \def\@gls@extramakeindexopts{-g}%
 }%
 {}%
}%
{}%
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkquote####1####2#1####3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={####1}%
\noexpand\ifx\noexpand\null####2\noexpand\null
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote####3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%

```

```

\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1#1\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1###3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkquote
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\renewcommand\noexpand\@gls@checkmkidxchars}[1]{%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkquote###1\noexpand\@nil
#1#1\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkesquote###1\noexpand\@nil
\expandonce{\csname#1\endcsname}\expandonce{\csname#1\endcsname}%
\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkesactual###1\noexpand\@nil
\noexpand\?\noexpand\?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkactual###1\noexpand\@nil
\noexpand?\noexpand?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkbar###1\noexpand\@nil
\noexpand|\noexpand|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkesubar###1\noexpand\@nil
\noexpand||\noexpand||\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checklevel###1\noexpand\@nil
\noexpand!\noexpand!\noexpand\null

```

```

\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkesclevel###1\noexpand\@nil
\noexpand\!\noexpand\!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%
\noexpand\expandafter\noexpand\@gls@checkesc###1\noexpand\@nil
\@backslashchar\@backslashchar\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkescquote###1%
\expandonce{\csname#1\endcsname}###2\expandonce{\csname#1\endcsname}%
###3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={###1}%
\noexpand\ifx\noexpand\null###2\noexpand\null
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkescquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkescquote{%
\noexpand\@gls@checkescquote###3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string
\expandonce{\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@gls@checkescquote{%
\noexpand\@gls@checkescquote###2\expandonce{\csname#1\endcsname}%
\expandonce{\csname#1\endcsname}\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkescquote{%
\noexpand\@gls@checkescquote###2\expandonce{\csname#1\endcsname}%
###3\noexpand\null}%
\noexpand\fi

```

```

 \noexpand\fi
 \noexpand\@gls@checkescquote
 }%
}
\@gls@docheckquotedef
}
\newcommand*\@gls@nosetquote}[1]{\PackageError{glossaries}%
 {\string\GlsSetQuote\space not permitted here}%
 {Move \string\GlsSetQuote\space earlier in the preamble, as
 soon as possible after glossaries.sty has been loaded}}
\fi
\newcommand*\@gls@extramakeindexopts}[1]{}
\newcommand\@noist{%
 \@gls@addpredefinedattributes
 \let\writeist\relax
}
\newcommand*\@makeglossary}[1]{%
 \ifglossaryexists{#1}%
 {%
 \ifglssavewrites
 \expandafter\newtoks\csname glo@#1@filetok\endcsname
 \else
 \expandafter\newwrite\csname glo@#1@file\endcsname
 \expandafter\@glsopenfile\csname glo@#1@file\endcsname{#1}%
 \fi
 \@gls@renewglossary
 \writeist
 }%
 {%
 \PackageError{glossaries}%
 {Glossary type ‘#1’ not defined}%
 {New glossaries must be defined before using \string\makeglossaries}%
 }%
}
\newcommand*\@glsopenfile}[2]{%
 \immediate\openout#1=\jobname.\csname @glotype@#2@out\endcsname
 \PackageInfo{glossaries}{Writing glossary file
 \jobname.\csname @glotype@#2@out\endcsname}%
}
\newcommand*\@closegls}[1]{%
 \closeout\csname glo@#1@file\endcsname
}
\ifglxindy
\newcommand*\@gls@automake}[1]{%
 \ifglossaryexists{#1}
 {%
 \@closegls{#1}%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-M ord/letorder }}%
 {\let\@gls@order\@empty}%
 }

```

```

\ifcsundef{@xdy@#1@language}%
{\let\@gls@langmod\@xdy@main@language}%
{\letcs\@gls@langmod{@xdy@#1@language}}%
\edef\@gls@dothiswrite{\noexpand\write18{xindy
-I xindy
\@gls@order
-L \@gls@langmod\space
-M \@gls@istfilename\space
-C \@gls@codepage\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{
\GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\else
\newcommand*{\@gls@automake}[1]{%
\ifglossaryexists{#1}
{%
\@closegls{#1}%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-l }}%
{\let\@gls@order\@empty}%
\edef\@gls@dothiswrite{\noexpand\write18{makeindex \@gls@order
-s \istfilename\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{
\GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\fi
\ifglsxindy
\newcommand*{\@gls@automake@immediate}[1]{%
\ifglossaryexists{#1}
{%
\IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
{%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-M ord/letorder }}%
{\let\@gls@order\@empty}%
\ifcsundef{@xdy@#1@language}%

```

```

 {\let\@gls@langmod\@xdy@main@language}%
 {\letcs\@gls@langmod{\@xdy@#1@language}}%
\edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{xindy
-I xindy
\@gls@order
-L \@gls@langmod\space
-M \gls@istfilebase\space
-C \gls@codepage\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{
\GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\else
\newcommand*{\@gls@automake@immediate}[1]{%
\ifglossaryexists{#1}
{%
\IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
{%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-l }}%
{\let\@gls@order\@empty}%
\edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{makeindex \@gls@order
-s \istfilename\space
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}%
}%
\@gls@dothiswrite
}%
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{
\GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\fi
\newcommand*{\@warn@nomakeglossaries}{}
\newcommand*{\warn@nomakeglossaries}{\@warn@nomakeglossaries}
\newcommand{\@gls@automake@immediate}{%
\ifnum\gls@automake@nr=2\relax

```

```

\@for\@gls@type:=\@glo@types\do{%
 \ifdefempty{\@gls@type}{}%
 {\@gls@automake@immediate{\@gls@type}}%
}%
\glsautomakefalse
\renewcommand*{\@gls@doautomake}{}%
\fi
}
\newcommand*{\makeglossaries}{%
\@domakeglossaries
{%
 \@gls@@automake@immediate
 \ifundef{\glswrite}{\newwrite\glswrite}{}%
 \protected@write\@auxout{}{\string\providecommand\string\@glsorder[1]{}}
 \protected@write\@auxout{}{\string\providecommand\string\@istfilename[1]{}}
 \ifundef{\@gls@extramakeindexopts
 }{%
 {%
 \protected@write\@auxout{}{\string\providecommand
 \string\@gls@extramakeindexopts[1]{}}
 \protected@write\@auxout{}{\string\@gls@extramakeindexopts
 {\@gls@extramakeindexopts}}%
 }%
 \protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
 \protected@write\@auxout{}{\string\@glsorder{\glsorder}}
 \@for\@glo@type:=\@glo@types\do{%
 \ifthenelse{\equal{\@glo@type}{}}{ }{%
 \@makeglossary{\@glo@type}}%
 }%
 \renewcommand*\newglossary[4] [] {%
 \PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%
 \let\@makeglossary\@gobble
 \let\makeglossaries\relax
 \@disable@onlypremakeg
 \let\gls@checkseeallowed\relax
 \let\warn@nomakeglossaries\relax
 \let\warn@noprntglossary\@makeglossaries@warn@noprntglossary
 \ifglssavenumberlist
 \edef\@gls@doddeflistparser{\noexpand\DeclareListParser
 {\noexpand\glsnumlistparser}{\delimN}}%
 \@gls@doddeflistparser
 \fi
 \let\makenoidxglossaries\@no@makeglossaries
 \renewcommand*{\@printgloss@setsort}{%
 \let\@glo@assign@sortkey\@glo@no@assign@sortkey
 }%
 \ifglsautomake

```

```

\renewcommand*{\@gls@doautomake}{%
\@for\@gls@type:=\@glo@types\do{%
\ifdefempty{\@gls@type}{}%
{\@gls@automake{\@gls@type}}%
}%
}%
\fi
\@glo@check@sortallowed\makeglossaries
}%
}
\@onlypreamble{\makeglossaries}
\newcommand\@makeglossaries@warn@noprintglossary{%
\ifdefstring{\@glo@types}{,}%
{%
\GlossariesWarningNoLine{No glossaries have been defined}%
}%
{%
\GlossariesWarningNoLine{No \string\printglossary\space
or \string\printglossaries\space
found. ^^J(Remove \string\makeglossaries\space if you
don't want any glossaries.) ^^JThis document will not
have a glossary}%
}%
}%
\AtEndDocument{%
\warn@nomakeglossaries
\warn@noprintglossary
}
\newcommand*\@makenoidxglossaries{%
\@domakeglossaries
{%
\renewcommand{\@gls@noref@warn}[1]{%
\GlossariesWarning{Empty glossary for
\string\printnoidxglossary[type={##1}].
Rerun may be required (or you may have forgotten to use
commands like \string\gls)}%
}%
\let\@gls@checkmkidxchars\@gobble
\glsesclocationsfalse
\let\@do@@wrglossary\gls@noidxglossary
\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle
\let\gls@checkseeallowed\relax
\renewcommand{\@do@seeglossary}[2]{%
\protected@edef\@gls@label{\glsdetoklabel{##1}}%
\protected@write\@auxout{}{%
\string\@gls@reference
{\csname glo@\@gls@label @type\endcsname}%
{\@gls@label}}%
{%
\string\glsseeformat##2}%
}
}

```



```

 }%
 }%
} %
\AtBeginDocument
{%
 \write\@auxout{\string\providecommand\string\@gls@reference[3]{} }%
}%
\def\warn@noprintglossary{%
 \GlossariesWarningNoLine{No \string\printnoidxglossary\space
 or \string\printnoidxglossaries ^^J
 found. (Remove \string\makenoidxglossaries\space if you
 don't want any glossaries.)^^JThis document will not have a glossary}%
}%
\let\warn@nomakeglossaries\relax
\let\makeglossaries\@no@makeglossaries
\renewcommand*\@printgloss@setsort{%
 \let\@glo@assign@sortkey\@glo@assign@sortkey
 \def\@glo@sorttype{\@glo@default@sorttype}%
}%
\renewcommand*\new@glossaryentry[2]{%
 \PackageError{glossaries}{Glossary entries must be
 defined in the preamble^^Jwhen you use
 \string\makenoidxglossaries}%
 {Either move your definitions to the preamble or use
 \string\makeglossaries}%
}%
\renewcommand*\@gls@entrynumberlist[1]{%
 \letcs{\@gls@loclist}{glo@\@gls@detoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \glsnoidxloclist{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for '##1'. Either
 a rerun is required or you haven't referenced the entry}%
 }%
 }%
}%
\renewcommand*\@gls@displaynumberlist[1]{%
 \letcs{\@gls@loclist}{glo@\@gls@detoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \glsnumlistsep
 }%
 \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
 }%
 }%
 }%

```

```

 }%
 }%
 \def\@gls@noidxloclist@finalsep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
 \@gls@noidxloclist@finalsep
 \@gls@noidxloclist@prev
}%
{
 ??\glsdoifexists{##1}%
 {
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
}%
}%
\renewcommand*\@glsnumberlistloop}[3]{%
 \letcs{\@gls@loclist}{glo\@glsdetoklabel{##1}@loclist}%
 \let\@gls@org@glsnoidxdisplayloc\glsnoidxdisplayloc
 \let\@gls@org@glsseeformat\glsseeformat
 \let\glsnoidxdisplayloc##2\relax
 \let\glsseeformat##3\relax
 \ifdef\@gls@loclist
 {
 \forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
 }%
 {
 ??\glsdoifexists{##1}%
 {
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
 }%
 \let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
 \let\glsseeformat\@gls@org@glsseeformat
}%
\let\@gls@sanitizesort\@gls@noidx@sanitizesort
\let\@gls@nosanitizesort\@gls@noidx@nosanitizesort
\@gls@noidx@setsanitizesort
\@glo@check@sortallowed\makenoidxglossaries
}%
}
\@onlypreamble{\makenoidxglossaries}
\newcommand*\@glsnumberlistloop}[2]{%
 \PackageError{glossaries}{\string\glsnumberlistloop\space
 only works with \string\makenoidxglossaries}{}%
}
\newcommand*\@glsnoidxnumberlistloophandler}[1]{%
 #1%
}

```

```

\newcommand*{\@no@makeglossaries}{%
 \PackageError{glossaries}{You can't use both
 \string\makeglossaries\space and \string\makenoidxglossaries}%
 {Either use one or other (or none) of those commands but not both
 together.}%
}
\newcommand{\@gls@nofwarn}[1]{%
 \GlossariesWarning{\string\makenoidxglossaries\space
 is required to make \string\printnoidxglossary[type={#1}] work}%
}
\newcommand*{\@gls@noidxglossary}{%
 \protected@write\@auxout{%
 \string\@gls@reference
 {\csname glo@\@gls@label @type\endcsname}%
 {\@gls@label}%
 {\string\@glsnoidxdisplayloc
 {\@gls@counterprefix}%
 {\@gls@counter}%
 {\@glsnumberformat}%
 {\@glslocref}%
 }%
 }%
}
\providecommand\istfile{\glswrite}
\AtEndDocument{%
 \glswritefiles
}
\newcommand*{\@glswritefiles}{%
 \foralllglossaries{\@glo@type}{%
 \ifcsundef{glo@\@glo@type @filetok}%
 {%
 \def\@gls@tmp{}%
 }%
 {%
 \edef\@gls@tmp{\expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 }%
 \ifx\@gls@tmp\@empty
 \ifx\@glo@type\@glsdefaulttype
 \GlossariesWarningNoLine{Glossary '\@glo@type' has no
 entries.^^JRemember to use package option 'nomain' if
you
 don't want to^^Juse the main glossary}%
 \else
 \GlossariesWarningNoLine{Glossary '\@glo@type' has no
 entries}%
 \fi
 \else
 \@glsopenfile{\glswrite}{\@glo@type}%
 \immediate\write\glswrite%
 }%
 }%
}

```

```

 \expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 \immediate\closeout\glswrite
 \fi
}
}%
}
\newcommand*\@gls@glossary}[1]{%
 \@gls@glossary{#1}%
}
\newcommand*\@gls@glossary}[2]{%
 \if@gls@debug
 \PackageInfo{glossaries}{wrglossary(#1)(#2)}%
 \fi
}
\newcommand{\@gls@renewglossary}{%
 \gdef\@gls@glossary##1{\@bsphack\begingroup\gls@wrglossary{##1}}%
 \let\@gls@renewglossary\@empty
}
\newcommand*\@gls@wrglossary}[2]{%
 \ifglssavewrites
 \protected@edef\@gls@tmp{\the\csname glo@#1@filetok\endcsname#2}%
 \expandafter\global\expandafter\csname glo@#1@filetok\endcsname
 \expandafter{\@gls@tmp^^J}%
 \else
 \ifcsdef{glo@#1@file}%
 {%
 \expandafter\protected@write\csname glo@#1@file\endcsname{%
 \gls@disablepagerefexpansion}{#2}%
 }%
 {%
 \ifignoredglossary{#1}{}%
 {%
 \GlossariesWarning{No file defined for glossary ‘#1’}%
 }%
 }%
 \fi
 \endgroup\@esphack
}
\newcommand*\@do@wrglossary}[1]{%
 \glswriteentry{#1}{\@do@wrglossary{#1}}%
}
\newcommand*\@gls@writeentry}[2]{%
 \ifglsindexonlyfirst
 \ifglsused{#1}{#2}%
 \else
 #2%
 \fi
}
\newcommand{\@gls@protected@pagefmts}{\@gls@numberpage,\@gls@alphpage,%
 \@gls@Alphpage,\@gls@romanpage,\@gls@Romanpage,\@gls@arabicpage}

```

```

\newcommand*\gls@disablepagerefexpansion}{%
 \for\@gls@this:=\gls@protected@pagefmts\do
 {%
 \expandafter\let\@gls@this\relax
 }%
}
\newcommand*\gls@alphpage}{\@alph\c@page}
\newcommand*\gls@Alphpage}{\@Alph\c@page}
\newcommand*\gls@numberpage}{\number\c@page}
\newcommand*\gls@arabicpage}{\@arabic\c@page}
\newcommand*\gls@romanpage}{\romannumeral\c@page}
\newcommand*\gls@Romanpage}{\@Roman\c@page}
\newcommand*\gls@addprotectedpagefmt}[1]{%
 \protected@eappto\gls@protected@pagefmts{\expandonce{\csname gls#1page\endcsname}}%
 \csedef\gls#1page{\expandonce{\csname#1\endcsname}\noexpand\c@page}%
 \protected@eappto\@wrglossarynumberhook{%
 \noexpand\let\expandonce{\csname org@gls#1\endcsname}%
 \expandonce{\csname#1\endcsname}%
 \noexpand\def\expandonce{\csname#1\endcsname}{%
 \noexpand\@wrglossary@pageformat
 \expandonce{\csname gls#1page\endcsname}%
 \expandonce{\csname org@gls#1\endcsname}%
 }%
 }%
}
\newcommand*\@wrglossarynumberhook{}
\newcommand{\@wrglossary@pageformat}[3]{%
 \ifx#3\c@page #1\else #2#3\fi
}
\newcommand*\@do@wrglossary}[1]{%
 \ifglsclocations
 \@do@esc@wrglossary{#1}%
 \else
 \@do@noesc@wrglossary{#1}%
 \fi
}
\newcommand*\@do@noesc@wrglossary}[1]{%
 \expandafter\def\expandafter\@glslocref\expandafter{\theglsentrycounter}%
 \expandafter\def\expandafter\@glsHlocref\expandafter{\theHglentrycounter}%
 \ifx\@glsHlocref\@glslocref
 \def\@glo@counterprefix{}%
 \else
 \protected@edef\@do@gls@getcounterprefix{\noexpand\@gls@getcounterprefix
 {\@glslocref}{\@glsHlocref}%
 }%
 \@do@gls@getcounterprefix
 \fi
 \protected@edef\@gls@label{\glsdetoklabel{#1}}%
 \@do@wrglossary
}

```

```

\newif\ifglswrallowprimitivemods
\glswrallowprimitivemodstrue
\newcommand*{\@do@esc@wrglossary}[1]{% please read documented code!
\begingroup
\let\gls@orgthe\the
\let\gls@orgnumber\number
\let\gls@orgarabic@arabic
\let\gls@orgromannumeral\romannumeral
\let\gls@orgalph\@alph
\let\gls@orgAlph\@Alph
\let\gls@orgRoman\@Roman
\ifglswrallowprimitivemods
\def\gls@the##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgthe##1\fi}%
\def\the{\expandafter\gls@the}%
\def\gls@number##1{%
\ifx##1\c@page \gls@numberpage\else\gls@orgnumber##1\fi}%
\def\number{\expandafter\gls@number}%
\fi
\def\@arabic##1{%
\ifx##1\c@page \gls@arabicpage\else\gls@orgarabic##1\fi}%
\def\romannumeral##1{%
\ifx##1\c@page \gls@romanpage\else\gls@orgromannumeral##1\fi}%
\def\@Roman##1{%
\ifx##1\c@page \gls@Romanpage\else\gls@orgRoman##1\fi}%
\def\@alph##1{%
\ifx##1\c@page \gls@alphpage\else\gls@orgalph##1\fi}%
\def\@Alph##1{%
\ifx##1\c@page \gls@Alphpage\else\gls@orgAlph##1\fi}%
\@wrglossarynumberhook
\gls@disablepagerefexpansion
\protected@xdef\@glslocref{\theglsentrycounter}%
\endgroup
\@gls@checkmkidxchars\@glslocref
\expandafter\ifx\theHglentrycounter\theglsentrycounter\relax
\def\@glo@counterprefix{}%
\else
\protected@edef\@glsHlocref{\theHglentrycounter}%
\@gls@checkmkidxchars\@glsHlocref
\edef\@do@gls@getcounterprefix{\noexpand\@gls@getcounterprefix
{\@glslocref}{\@glsHlocref}%
}%
\@do@gls@getcounterprefix
\fi
\protected@edef\@gls@label{\glsdetoklabel{#1}}%
\@do@wrglossary
}
\newcommand*{\@do@wrglossary}{%
\ifglswrallowprimitivemods
\expandafter\@glo@checkmkidxrangechar\@glsnumberformat\@nil

```

```

\def\@glo@range{}%
\expandafter\if\@glo@prefix(\relax
\def\@glo@range{:open-range}%
\else
\expandafter\if\@glo@prefix)\relax
\def\@glo@range{:close-range}%
\fi
\fi
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
(indexentry :tkey (\csname glo@\@gls@label @index\endcsname)
:locref \string"\@glo@counterprefix}{\@gls@locref}\string" %
:attr \string"\@gls@counter\@glo@suffix\string"
\@glo@range
)
}%
\else
\@set@glo@numformat{\@glo@numfmt}{\@gls@counter}{\@gls@numberformat}%
{\@glo@counterprefix}%
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
\string\glossaryentry{\csname glo@\@gls@label @index\endcsname
\@gls@encapchar\@glo@numfmt}{\@gls@locref}}%
\fi
}
\newcommand*\@gls@getcounterprefix[2]{%
\edef\@gls@thisloc{#1}\edef\@gls@thisHloc{#2}%
\ifx\@gls@thisloc\@gls@thisHloc
\def\@glo@counterprefix{}%
\else
\def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
\def\@glo@tmp{##2}%
\ifx\@glo@tmp\@empty
\def\@glo@counterprefix{}%
\else
\def\@glo@counterprefix{##1}%
\fi
}%
\@gls@get@counterprefix#2.#1\end@getprefix
\ifx\@glo@counterprefix\@empty
\GlossariesWarning{Hyper target ‘#2’ can’t be formed by
prefixing~Jlocation ‘#1’. You need to modify the
definition of \string\theH\@gls@counter~Jotherwise you
will get the warning: “name{\@gls@counter.#1}’ has been~J
referenced but does not exist”}%
\fi
\fi
}
\newcommand{\@do@seeglossary}[2]{%
\def\@gls@xref{#2}%
\@onelevel@sanitize\@gls@xref
\@gls@checkmkidxchars\@gls@xref

```

```

\ifglxindy
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 (indexentry
 :tkey (\csname glo@#1@index\endcsname)
 :xref (\string"\@gls@xref\string")
 :attr \string"see\string"
)
 }%
\else
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 \string\glossaryentry{\csname glo@#1@index\endcsname
 \@gls@encapchar glsseeformat\@gls@xref}{Z}}%
\fi
}
\def\@gls@fixbraces#1#2#3\@nil{%
 \ifx#2[\relax
 \@gls@fixbraces#1#2#3\@end@fixbraces
 \else
 \def#1{{#2#3}}%
 \fi
}
\def\@gls@fixbraces#1[#2]#3\@end@fixbraces{%
 \def#1{[#2]{#3}}%
}
\newrobustcmd*\glssee}[3][\seename]{%
 \@do@seeglossary{#2}{[#1]{#3}}
\newcommand*\@glssee}[3][\seename]{%
 \glssee[#1]{#3}{#2}}
\newrobustcmd*\glsseeformat}[3][\seename]{%
 \emph{#1} \glsseelist{#2}}
\newrobustcmd*\glsseelist}[1]{%
 \let\@gls@dolast\relax
 \let\@gls@donext\relax
 \@for\@gls@thislabel:=#1\do{%
 \ifx\@xfor@nextelement\@nnil
 \@gls@dolast
 \else
 \@gls@donext
 \fi
 \expandafter\glsseeitem\expandafter{\@gls@thislabel}%
 \let\@gls@dolast\glsseelastsep
 \let\@gls@donext\glsseesep
 }%
}
\newcommand*\glsseelastsep}{\space\andname\space}
\newcommand*\glsseesep}{, }
\newrobustcmd*\glsseeitem}[1]{\glshyperlink[\glsseeitemformat{#1}]{#1}}
\newcommand*\glsseeitemformat}[1]{\glsentrytext{#1}}
\newcommand*\gls@save@numberlist}[1]{%
 \ifglssavenumberlist

```



```

\toks@{#1}%
\protected@edef\do@writeaux@info{%
 \noexpand\csgdef{glo@glscurrententrylabel @numberlist}{\the\toks@}%
}%
\@onelevel@sanitize\do@writeaux@info
\protected@write\auxout{}{\do@writeaux@info}%
\fi
}
\newcommand*\warn@noprntglossary{}{}%
\ifcsundef{printglossary}{}{}%
{%
 \@gls@warnonglossdefined
 \undef\printglossary
}
\newcommand*\@printgloss@checkexists@noignored}[2]{%
 \ifglossaryexists{#1}%
 {#2}%
 {%
 \ifignoredglossary{#1}%
 {\GlossariesWarning{Glossary ‘#1’ is an ignored glossary}}%
 {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
 }%
}
\newcommand*\@printgloss@checkexists@allowignored}[2]{%
 \s@ifglossaryexists{#1}%
 {#2}%
 {\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
}
\let\@printgloss@checkexists\@printgloss@checkexists@noignored
\newcommand*\printglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@glossary}%
}
\newcommand*\printglossaries{%
 \forallglossaries{\@glo@type}{\printglossary[type=\@glo@type]}%
}
\newcommand*\printnoidxglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@noidx@glossary}%
}
\newcommand*\printnoidxglossaries{%
 \forallglossaries{\@glo@type}{\printnoidxglossary[type=\@glo@type]}%
}
\newcommand*\@printgloss@setsort{}{}
\newcommand*\@gls@preglossaryhook{}{}
\newcommand*\printglossary}[2]{%
 \def\@glo@type{\glsdefaulttype}%
 \def\glossarytitle{\csname @glo@type@\@glo@type @title\endcsname}%
 \def\glossarytoctitle{\glossarytitle}%
 \let\org@glossarytitle\glossarytitle

```

```

\def@glossarystyle{%
 \ifx@glossary@default@style\relax
 \GlossariesWarning{No default glossary style provided \MessageBreak
 for the glossary '@glo@type'. \MessageBreak
 Using deprecated fallback. \MessageBreak
 To fix this set the style with \MessageBreak
 \string\setglossarystyle\space or use the \MessageBreak
 style key=value option}%
 \fi
}%
\def@gls@dotoc@title{\glssettoc@title{\@glo@type}}%
\let@org@glossary@entry@numbers@glossary@entry@numbers
\bgroup
 \@printgloss@setsort
 \setkeys{printgloss}{#1}%
 \@printgloss@checkexists{\@glo@type}%
 {%
 \ifx@glossary@title@org@glossary@title
 \else
 \expandafter\let\csname @glo@type@\@glo@type @title\endcsname
 \glossary@title
 \fi
 \let\currentglossary@\@glo@type
 \let@org@glossary@entry@numbers@glossary@entry@numbers
 \let@gls@nonextpages@gls@nonextpages
 \let@gls@nextpages@gls@nextpages
 \let\@nopostdesc@\@nopostdesc
 \gls@dotoc@title
 \@glossary@style
 \let@gls@org@glossary@entry@field@glossentry
 \let@gls@org@glossary@subentry@field@subglossentry
 \renewcommand{\glossentry}[1]{%
 \protected@xdef\gls@current@entry@label{\gls@detoklabel{##1}}%
 \gls@org@glossary@entry@field{##1}%
 }%
 \renewcommand{\subglossentry}[2]{%
 \protected@xdef\gls@current@entry@label{\gls@detoklabel{##2}}%
 \gls@org@glossary@subentry@field{##1}{##2}%
 }%
 \@gls@preglossary@hook
 #2%
 }%
\egroup
\global\let@glossary@entry@numbers@\org@glossary@entry@numbers
\global\let\warn@noprint@glossary\relax
}
\newcommand{\@print@glossary}{%
 \makeatletter
 \@input@{\jobname.\csname @glo@type@\@glo@type @in\endcsname}%
 \IfFileExists{\jobname.\csname @glo@type@\@glo@type @in\endcsname}%

```

```

}%
{\null}%
\ifglxindy
 \ifcsundef{@xdy@\@glo@type @language}%
 {%
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@xdy@language[2]{}%
 }%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@xdy@language{\@glo@type}{\@xdy@main@language}}%
 }%
 }%
 }%
 }%
 {%
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@xdy@language[2]{}%
 }%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@xdy@language{\@glo@type}{\csname @xdy@\@glo@type
 @language\endcsname}}%
 }%
 }%
 }%
 }%
 \@do@auxoutstuff
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@gls@codepage[2]{}%
 }%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@gls@codepage{\@glo@type}{\@gls@codepage}}%
 }%
 }%
 }%
 \@do@auxoutstuff
\fi
\renewcommand*{\@warn@nomakeglossaries}{%
 \GlossariesWarningNoLine{\string\makeglossaries\space
 hasn't been used,^^Jthe glossaries will not be updated}%
}%
}
\newcommand*{\@glo@sortentries}[2]{%
 \glosortentrieswarning
 \def\@glo@sortinglist{}%
 \def\@glo@sortinghandler{#1}%
 \protected@edef\@glo@type{#2}%
 \forlistcsloop{\@glo@do@sortentries}{\@glsref@#2}%
 \csdef{\@glsref@#2}{%
 \for\@this@label:=\@glo@sortinglist\do{%
 \xifinlistcs{\@this@label}{\@glsref@#2}%
 }%
 }%
}

```

```

 {}%
 {%
 \listcsxadd{@glsref@#2}{\@this@label}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@label}%
 {%
 \glo@addchildren{#2}{\@this@label}%
 }%
 {}%
 }%
}
\newcommand*{\@glo@addchildren}[2]{%
 \bgroup
 \letcs{\@glo@childlist}{@glo@sortingchildren@#2}%
 \@for\@this@childlabel:=\@glo@childlist\do
 {%
 \xifinlistcs{\@this@childlabel}{@glsref@#1}%
 {}%
 {%
 \listcsxadd{@glsref@#1}{\@this@childlabel}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@childlabel}%
 {%
 \glo@addchildren{#1}{\@this@childlabel}%
 }%
 {}%
 }%
 }%
\egroup
}
\newcommand*{\@glo@do@sortentries}[1]{%
 \ifglshasparent{#1}%
 {%
 \protected@edef\@glo@parent{\csuse{glo@glsdetoklabel{#1}@parent}}%
 \ifcsundef{@glo@sortingchildren@\@glo@parent}%
 {%
 \csdef{@glo@sortingchildren@\@glo@parent}{}%
 }%
 {}%
 \expandafter\@glo@sortedinsert
 \csname @glo@sortingchildren@\@glo@parent\endcsname{#1}%
 \xifinlistcs{\@glo@parent}{@glsref@\@glo@type}%
 {}%
 }%
 {}%
 \expandafter\@glo@do@sortentries\expandafter{\@glo@parent}%
 }%
 }%
 {%
 \@glo@sortedinsert{\@glo@sortinglist}{#1}%
 }%
}

```

```

 }%
 }
 \newcommand*{\@glo@sortedinsert}[2]{%
 \dtl@insertinto{#2}{#1}{\@glo@sortinghandler}%
 }%
 \newcommand*{\@glo@sorthandler@word}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlwordindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
 }
 \newcommand*{\@glo@sorthandler@letter}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlletterindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
 }
 \newcommand*{\@glo@sorthandler@case}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
 }
 \newcommand*{\@glo@sorthandler@nocase}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlicompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
 }
 \newcommand*{\@glo@sortmacro@word}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@word}{#1}%
 }%
 }%

```

```

 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=word]}{}%
 }%
 }
\newcommand*{\@glo@sortmacro@letter}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@letter}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=letter]}{}%
 }%
}
\newcommand*{\@glo@sortmacro@standard}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \ifcsdef{\@glo@sorthandler@glorder}%
 {%
 \@glo@sortentries{\csuse{\@glo@sorthandler@glorder}}{#1}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\glorder’}{}%
 }%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=standard]}{}%
 }%
}
\newcommand*{\@glo@sortmacro@case}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@case}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=case]}{}%
 }%
}
\newcommand*{\@glo@sortmacro@nocase}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@nocase}{#1}%
 }%
}

```

```

 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=nocase]}{}%
 }%
 }
\newcommand*{\@glo@sortmacro@def}[1]{%
 \def\@glo@sortinglist{}%
 \forglseentries[#1]{\@gls@thislabel}%
 {%
 \xifinlistcs{\@gls@thislabel}{\@glsref@#1}%
 {%
 \listcsadd{\@glo@sortinglist}{\@gls@thislabel}%
 }%
 {%
 }%
 }%
 \cslet{\@glsref@#1}{\@glo@sortinglist}%
}
\newcommand*{\@glo@sortmacro@def@do}[1]{%
 \ifinlistcs{#1}{\@glsref@\@glo@type}%
 {}%
 {%
 \listcsadd{\@glsref@\@glo@type}{#1}%
 }%
 \ifcsdef{\@glo@sortingchildren@#1}%
 {%
 \@glo@addchildren{\@glo@type}{#1}%
 }%
 {}%
}
\newcommand*{\@glo@sortmacro@use}[1]{%
\newcommand*{\@print@noidx@glossary}{%
 \ifcsdef{\@glsref@\@glo@type}%
 {%
 \ifcsdef{\@glo@sortmacro@\@glo@sorttype}%
 {%
 \csuse{\@glo@sortmacro@\@glo@sorttype}{\@glo@type}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\@glo@sorttype’}{}%
 }%
 \glossarysection[\glossarytoctitle]{\glossarytitle}%
 \glossarypreamble
 \def\@gls@currentlettergroup{}%
 \begin{theglossary}%
 \glossaryheader
 \glsresetentrylist
 \forlistcsloop{\@gls@noidx@do}{\@glsref@\@glo@type}%
 \end{theglossary}%
 }%
}

```

```

 \glossarypostamble
 }%
 {%
 \@gls@noref@warn{\@glo@type}%
 }%
}
\def\glo@grabfirst#1#2\@nil{%
 \def\@gls@firsttok{#1}%
 \ifdefempty\@gls@firsttok
 {%
 \def\@glo@thislettergrp{0}%
 }%
 {%
 \@onelevel@sanitize\@gls@firsttok
 \expandafter\@glo@grabfirst\@gls@firsttok{}}\@nil
 }%
}
\def\@glo@grabfirst#1#2\@nil{%
 \ifdefempty\@glo@thislettergrp
 {%
 \def\@glo@thislettergrp{glssymbols}%
 }%
 {%
 \count@=\ucode‘#1\relax
 \ifnum\count@=0\relax
 \def\@glo@thislettergrp{glssymbols}%
 \else
 \ifdefstring\@glo@sorttype{case}%
 {%
 \count@=#1\relax
 }%
 {%
 }%
 \edef\@glo@thislettergrp{\the\count@}%
 \fi
 }%
}
\newcommand{\@gls@noidx@do}[1]{%
 \global\letcs{\@gls@loclist}{glo\@glsdetoklabel{#1}@loclist}%
 \ifglshasparent{#1}%
 {%
 \gls@level=\csuse{glo\@glsdetoklabel{#1}@level}\relax
 \ifdefvoid{\@gls@loclist}
 {%
 \subglossentry{\gls@level}{#1}{}%
 }%
 {%
 \subglossentry{\gls@level}{#1}%
 }%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
}

```



```

 }%
 }%
}%
{%
\letcs{\@gls@sort}{glo@glsdetoklabel{#1}@sort}%
\expandafter\glo@grabfirst\@gls@sort{}{}\@nil
\ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
{}%
{%
\ifdefempty{\@gls@currentlettergroup}{}%
{%
\global\let\@glo@thislettergrp\@glo@thislettergrp
\glsgroupskip
}%
\glsgroupheading{\@glo@thislettergrp}%
}%
\global\let\@gls@currentlettergroup\@glo@thislettergrp
\ifdefvoid{\@gls@loclist}
{%
\glossentry{#1}{}%
}%
{%
\glossentry{#1}%
{%
\glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
}%
}%
}%
}
\newcommand*{\glsnoidxloclist}[1]{%
\def\@gls@noidxloclist@sep{}%
\def\@gls@noidxloclist@prev{}%
\forlistloop{\glsnoidxloclisthandler}{#1}%
}
\newcommand*{\glsnoidxloclisthandler}[1]{%
\ifdefstring{\@gls@noidxloclist@prev}{#1}%
{%
}%
{%
\@gls@noidxloclist@sep
#1%
\def\@gls@noidxloclist@sep{\delimN}%
\def\@gls@noidxloclist@prev{#1}%
}%
}
\newcommand*{\glsnoidxdisplayloclisthandler}[1]{%
\ifdefstring{\@gls@noidxloclist@prev}{#1}%
{%
}%
{%
}

```

```

 \@gls@noidxloclist@sep
 \@gls@noidxloclist@prev
 \def\@gls@noidxloclist@prev{#1}%
 }%
}
\newcommand*\glsnoidxdisplayloc[4]{%
 \setentrycounter[#1]{#2}%
 \csuse{#3}{#4}%
}
\newcommand*\@gls@reference}[3]{%
 \glsdoifexistsorwarn{#2}%
 {%
 \ifcsundef{\@glsref@#1}{\csgdef{\@glsref@#1}{}}{%
 \ifinlistcs{#2}{\@glsref@#1}%
 {}%
 {\listcsgadd{\@glsref@#1}{#2}}%
 \ifcsundef{glo@\glsdetoklabel{#2}@loclist}%
 {\csgdef{glo@\glsdetoklabel{#2}@loclist}{}}%
 {}%
 \listcsgadd{glo@\glsdetoklabel{#2}@loclist}{#3}%
 }%
 }
}
\define@key{printgloss}{type}{\def\@glo@type{#1}}
\define@key{printgloss}{title}{%
 \def\glossarytitle{#1}%
 \let\gls@dotocitle\relax
}
\define@key{printgloss}{toctitle}{%
 \def\glossarytoctitle{#1}%
 \let\gls@dotocitle\relax
}
\define@key{printgloss}{style}{%
 \ifcsundef{\@glsstyle@#1}%
 {%
 \PackageError{glossaries}%
 {Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \def\@glossarystyle{\setglossentrycompatibility
 \csname @glsstyle@#1\endcsname}%
 }%
 }
}
\define@choicekey{printgloss}{numberedsection}%
[\@gls@numberedsection@val\@gls@numberedsection@nr]%
{false,nolabel,autolabel,nameref}[nolabel]%
{%
 \ifcase\@gls@numberedsection@nr\relax
 \renewcommand*\@@glossarysecstar{*}%
 \renewcommand*\@@glossaryseclabel{}%
 \or

```

```

\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{}%
\or
\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{\label{\glsautoprefix\@glo@type}}%
\or
\renewcommand*\@@glossarysecstar{*}%
\renewcommand*\@@glossaryseclabel{%
\protected@edef\@currentlabelname{\glossarytoctitle}%
\label{\glsautoprefix\@glo@type}}%
\fi
}
\define@choicekey{printgloss}{nogroupskip}{true,false}[true]{%
\csuse{glsnogroupskip#1}}%
}
\define@choicekey{printgloss}{nopostdot}{true,false}[true]{%
\csuse{glsnopostdot#1}}%
}
\newcommand*\GlsEntryCounterLabelPrefix{glsentry-}
\define@choicekey{printgloss}{entrycounter}{true,false}[true]{%
\csuse{glsentrycounter#1}}%
\@gls@define@glossaryentrycounter
}
\define@choicekey{printgloss}{subentrycounter}{true,false}[true]{%
\csuse{gls subentrycounter#1}}%
\@gls@define@glossarysubentrycounter
}
\define@boolkey{printgloss}[gls]{nonumberlist}[true]{%
\ifglsnonumberlist
\def\glossaryentrynumbers##1{}%
\else
\def\glossaryentrynumbers##1{##1}%
\fi}
\define@key{printgloss}{sort}{\@glo@assign@sortkey{#1}}
\newcommand*\@glo@no@assign@sortkey[1]{%
\PackageError{glossaries}{‘sort’ key not permitted with
\string\printglossary}%
{The ‘sort’ key may only be used with \string\printnoidxglossary}%
}
\newcommand*\@glo@assign@sortkey[1]{%
\def\@glo@sorttype{#1}}%
}
\newcommand*\@glsnonextpages{%
\gdef\glossaryentrynumbers##1{%
\glsresetentrylist
}%
}
\newcommand*\@glsnextpages{%
\gdef\glossaryentrynumbers##1{%
##1\glsresetentrylist}}

```

```

\newcommand*\glsresetentrylist}{%
 \global\let\glossaryentrynumbers\org@glossaryentrynumbers}
\newcommand*\glsnonextpages}{}
\newcommand*\glsnextpages}{}
\@gls@define@glossaryentrycounter
\@gls@define@glossarysubentrycounter
\newcommand*\glsresetsubentrycounter}{%
 \ifglssubentrycounter
 \setcounter{glossarysubentry}{0}%
 \fi
}
\newcommand*\glsresetentrycounter}{%
 \ifglentrycounter
 \setcounter{glossaryentry}{0}%
 \fi
}
\newcommand*\glsstepentry}[1]{%
 \ifglentrycounter
 \refstepcounter{glossaryentry}%
 \label{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \fi
}
\newcommand*\glsstepsubentry}[1]{%
 \ifglssubentrycounter
 \protected@edef\currentglssubentry{\glsdetoklabel{#1}}%
 \refstepcounter{glossarysubentry}%
 \label{\GlsEntryCounterLabelPrefix\currentglssubentry}%
 \fi
}
\newcommand*\glsrefentry}[1]{%
 \ifglentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \ifglssubentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \gls{#1}%
 \fi
 \fi
}
\newcommand*\glsentrycounterlabel}{%
 \ifglentrycounter
 \theglossaryentry.\space
 \fi
}
\newcommand*\glssubentrycounterlabel}{%
 \ifglssubentrycounter
 \theglossarysubentry)\space
 \fi
}

```

```

\newcommand*\glsentryitem}[1]{%
 \ifglsentrycounter
 \glsstepentry{#1}\glsentrycounterlabel
 \else
 \glsresetsubentrycounter
 \fi
}
\newcommand*\glsesubentryitem}[1]{%
 \ifglsesubentrycounter
 \glsstepsubentry{#1}\glsesubentrycounterlabel
 \fi
}
\ifcsundef{theglossary}%
{%
 \newenvironment{theglossary}{}{}%
}%
{%
 \@gls@warnontheGLOSSDEFINED
 \renewenvironment{theglossary}{}{}%
}
\newcommand*\glossaryheader{}
\newcommand*\glstarget}[2]{\@glstarget{\glo@linkprefix#1}{#2}}
\providecommand*\compatibleglossentry}[2]{%
 \toks@{#2}%
 \protected@edef\@do@glossentry{\noexpand\glossaryentryfield{#1}%
 {\noexpand\glsnamefont
 {\expandafter\expandonce\csname glo@#1@name\endcsname}}%
 {\expandafter\expandonce\csname glo@#1@desc\endcsname}%
 {\expandafter\expandonce\csname glo@#1@symbol\endcsname}%
 {\the\toks@}}%
 }%
 \@do@glossentry
}
\newcommand*\glossentryname}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
 \expandafter\glsnamefont\expandafter{\glo@name}%
 }%
}
\newcommand*\Glossentryname}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsnamefont{\Glsentryname{#1}}%
 }%
}
\newcommand*\glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrydesc{#1}%
 }%
}

```

```

 }%
 }
 \newcommand*\Glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrydesc{#1}%
 }%
 }
 \newcommand*\glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrysymbol{#1}%
 }%
 }
 \newcommand*\Glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrysymbol{#1}%
 }%
 }
 \providecommand*\compatiblesubglossentry}[3]{%
 \toks@{#3}%
 \protected@edef\@do@subglossentry{\noexpand\glossarysubentryfield{\number#1}%
 {#2}}%
 {\noexpand\glsnamefont
 {\expandafter\expandonce\csname glo@#2@name\endcsname}}%
 {\expandafter\expandonce\csname glo@#2@desc\endcsname}%
 {\expandafter\expandonce\csname glo@#2@symbol\endcsname}%
 {\the\toks@}%
 }%
 \@do@subglossentry
}
\newcommand*\setglossentrycompatibility{%
 \let\glossentry\compatibleglossentry
 \let\subglossentry\compatiblesubglossentry
}
\setglossentrycompatibility
\newcommand*\glossaryentryfield}[5]{%
 \GlossariesWarning
 {Deprecated use of \string\glossaryentryfield.^.^J
 I recommend you change to \string\glossentry.^.^J
 If you've just upgraded, try removing your gls auxiliary
 files^^J and recompile}%
 \noindent\textbf{\glstarget{#1}{#2}} #4 #3. #5\par}
\newcommand*\glossarysubentryfield}[6]{%
 \GlossariesWarning
 {Deprecated use of \string\glossarysubentryfield.^.^J
 I recommend you change to \string\subglossentry.^.^J
 If you've just upgraded, try removing your gls auxiliary
 files^^J and recompile}%

```

```

\glstarget{#2}{\strut}#4. #6\par
\newcommand*{\glsgroupskip}{}
\newcommand*{\glsgroupheading}[1]{}
\newcommand*{\glsgetgrouptitle}[1]{%
 \@gls@getgrouptitle{#1}{\@gls@grptitle}%
 \@gls@grptitle
}
\newcommand*{\@gls@getgrouptitle}[2]{%
 \dtl@ifsingle{#1}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
 {%
 \ifboolexpr{test{\ifstrequal{#1}{glsymbols}}
 or test{\ifstrequal{#1}{glsnumbers}}}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
 {%
 \def#2{#1}%
 }%
 }%
}
\newcommand*{\@gls@noidx@getgrouptitle}[2]{%
 \DTLifint{#1}%
 {\edef#2{\char#1\relax}}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
}
\newcommand*{\glsgetgrouplabel}[1]{%
 \ifthenelse{\equal{#1}{\glsymbolsgroupname}}{glsymbols}{%
 \ifthenelse{\equal{#1}{\glsnumbersgroupname}}{glsnumbers}{#1}}%
\newcommand*{\setentrycounter}[2][1]{%
 \def\@glo@counterprefix{#1}%
 \ifx\@glo@counterprefix\@empty
 \def\@glo@counterprefix{.}%
 \else
 \def\@glo@counterprefix{.#1}%
 \fi
 \def\glsentrycounter{#2}%
}
\newcommand*{\setglossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \csname @glsstyle@#1\endcsname
 }%
}

```

```

\ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
\fi
}
\newcommand*\@glossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \GlossariesWarning
 {Deprecated command \string\glossarystyle.^^J
 I recommend you switch to \string\setglossarystyle\space unless
 you want to maintain backward compatibility}%
 \setglossentrycompatibility
 \csname @glsstyle@#1\endcsname
 \ifcsdef{@glscompstyle@#1}%
 {\setglossentrycompatibility\cuse{@glscompstyle@#1}}%
 {}%
 }%
 \ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
 \fi
}
\newcommand*\@newglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \expandafter\def\csname @glsstyle@#1\endcsname{#2}%
 }%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ is already defined}{}%
 }%
}
\newcommand*\@renewglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ isn’t already defined}{}%
 }%
 {%
 \csdef{@glsstyle@#1}{#2}%
 }%
}
\newcommand*\@glsnamefont}[1]{#1}
\ifcsundef{hyperlink}%
{%
 \def\glsnumber#1{#1}%
}%
{%
 \def\glsnumber#1{\@glsnumber#1\nohyperpage{}}\@nil}
}

```



```

\def\@glshypernumber#1\nohyperpage#2#3\@nil{%
 \ifx\#1\%
 \else
 \@delimR#1\delimR\delimR\%
 \fi
 \ifx\#2\%
 \else
 #2%
 \fi
 \ifx\#3\%
 \else
 \@glshypernumber#3\@nil
 \fi
}
\def\@delimR#1\delimR #2\delimR #3\{%
\ifx\#2\%
 \@delimN{#1}%
\else
 \@gls@numberlink{#1}\delimR\@gls@numberlink{#2}%
\fi}
\def\@delimN#1{\@delimN#1\delimN \delimN\}
\def\@delimN#1\delimN #2\delimN#3\{%
\ifx\#3\%
 \@gls@numberlink{#1}%
\else
 \@gls@numberlink{#1}\delimN\@gls@numberlink{#2}%
\fi
}
\def\@gls@numberlink#1{%
\begingroup
\toks@={}%
\@gls@removespaces#1 \@nil
\endgroup}
\def\@gls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\%
 \edef\@gls@x{\the\toks@}%
 \ifx\@gls@x\empty
 \else
 \hyperlink{\glsentrycounter\@glo@counterprefix\the\toks@}%
 {\the\toks@}%
 \fi
\else
 \@gls@ReturnAfterFi{%
 \@gls@removespaces#2\@nil
 }%
\fi
}
\long\def\@gls@ReturnAfterFi#1\fi{\fi#1}
\newcommand*\hyperrm[1]{\textrm{\glshypernumber{#1}}}

```

```

\newcommand*\hypersf}[1]{\textsf{\glshypernumber{#1}}}
\newcommand*\hypertt}[1]{\texttt{\glshypernumber{#1}}}
\newcommand*\hyperbf}[1]{\textbf{\glshypernumber{#1}}}
\newcommand*\hypermd}[1]{\textmd{\glshypernumber{#1}}}
\newcommand*\hyperit}[1]{\textit{\glshypernumber{#1}}}
\newcommand*\hypersl}[1]{\textsl{\glshypernumber{#1}}}
\newcommand*\hyperup}[1]{\textup{\glshypernumber{#1}}}
\newcommand*\hypersc}[1]{\textsc{\glshypernumber{#1}}}
\newcommand*\hyperemph}[1]{\emph{\glshypernumber{#1}}}
\newcommand{\oldacronym}[4][\gls@label]{%
 \def\gls@label{#2}%
 \newacronym[#4]{#1}{#2}{#3}%
 \ifcsundef{xspace}%
 {%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}}{\noexpand\gls{#1}}}%
 }%
 }%
 {%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}\noexpand\xspace}{%
 \noexpand\gls{#1}\noexpand\xspace}%
 }%
 }%
 }%
}
\newcommand{\newacronym}[4][[]]{
\newcommand*\acrpluralsuffix}{\glsacrpluralsuffix}
\newrobustcmd*\glstextup}[1]{\ifdef\textulc{\textulc{#1}}{\textup{#1}}}
\newcommand*\glsshortkey}{short}
\newcommand*\glsshortpluralkey}{shortplural}
\newcommand*\glslongkey}{long}
\newcommand*\glslongpluralkey}{longplural}
\newrobustcmd*\acrfull}{\@gls@hyp@opt\@ns@acrfull}
\newcommand*\ns@acrfull[2][[]]{%
 \new@ifnextchar[{\@acrfull{#1}{#2}}%
 {\@acrfull{#1}{#2}[]}%
}
\def\@acrfull#1#2[#3]{%
 \acrfullfmt{#1}{#2}{#3}%
}
\newcommand*\acrfullfmt}[3]{%
 \acrlinkfullformat{\@acrlong}{\@acrshort}{#1}{#2}{#3}%
}
\newcommand{\acrlinkfullformat}[5]{%
 \acrfullformat{#1}{#3}{#4}[#5]{#2}{#3}{#4}[]}%
}
\newcommand{\acrfullformat}[2]{#1\glspace{#2}}
\newrobustcmd{\glspace}{\space}
\newrobustcmd*\Acrfull}{\@gls@hyp@opt\@ns@Acrfull}
\newcommand*\ns@Acrfull[2][[]]{%

```

```

\new@ifnextchar [{\@Acrfull{#1}{#2}}%
 {\@Acrfull{#1}{#2} []}%
}
\def\@Acrfull#1#2[#3]{%
 \Acrfullfmt{#1}{#2}{#3}%
}
\newcommand*\Acrfullfmt[3]{%
 \acrlinkfullformat{\@Acrlong}{\@acrshort}{#1}{#2}{#3}%
}
\newrobustcmd*\@ACRfull{\@gls@hyp@opt\ns@ACRfull}
\newcommand*\ns@ACRfull[2] []{%
 \new@ifnextchar [{\@ACRfull{#1}{#2}}%
 {\@ACRfull{#1}{#2} []}%
}
}
\def\@ACRfull#1#2[#3]{%
 \ACRfullfmt{#1}{#2}{#3}%
}
\newcommand*\ACRfullfmt[3]{%
 \acrlinkfullformat{\@ACRlong}{\@ACRshort}{#1}{#2}{#3}%
}
\newrobustcmd*\@acrfullpl{\@gls@hyp@opt\ns@acrfullpl}
\newcommand*\ns@acrfullpl[2] []{%
 \new@ifnextchar [{\@acrfullpl{#1}{#2}}%
 {\@acrfullpl{#1}{#2} []}%
}
}
\def\@acrfullpl#1#2[#3]{%
 \acrfullplfmt{#1}{#2}{#3}%
}
\newcommand*\acrfullplfmt[3]{%
 \acrlinkfullformat{\@acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
}
\newrobustcmd*\@Acrfullpl{\@gls@hyp@opt\ns@Acrfullpl}
\newcommand*\ns@Acrfullpl[2] []{%
 \new@ifnextchar [{\@Acrfullpl{#1}{#2}}%
 {\@Acrfullpl{#1}{#2} []}%
}
}
\def\@Acrfullpl#1#2[#3]{%
 \ACRfullplfmt{#1}{#2}{#3}%
}
}

```

```

\newcommand*\ACRfullplfmt}[3]{%
 \acrlinkfullformat{\@ACRlongpl}{\@ACRshortpl}{#1}{#2}{#3}%
}
\newcommand{\acronymfont}[1]{#1}
\newcommand{\firstacronymfont}[1]{\acronymfont{#1}}
\newcommand*\acrnameformat}[2]{\acronymfont{#1}}
\newtoks\glskeylisttok
\newtoks\glslabeltok
\newtoks\glsshorttok
\newtoks\glslongtok
\newcommand*\newacronymhook{}
\newcommand*\SetGenericNewAcronym{%
 \let\@Gls@entryname\@Gls@acrentryname
 \renewcommand{\newacronym}[4][]{%
 \ifdefempty{\@glsacronymlists}%
 {%
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 }%
 {}%
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 }%
 \protected@edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\expandonce{\acronymentry{##2}}},%
 sort={\acronymssort{\the\glsshorttok}{\the\glslongtok}},%
 text={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 \GenericAcronymFields,%
 \the\glskeylisttok
 }%
 }%
 \@do@newglossaryentry
}%
\renewcommand*\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\genacrfullformat{##2}{##3}}%
}
\renewcommand*\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}%
}
\renewcommand*\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\genacrfullformat{##2}{##3}}}%
}

```

```

\renewcommand*\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}}%
\renewcommand*\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%
\renewcommand*\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
\newcommand*\GenericAcronymFields{description={\the\glslongtok}}
\newcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\newcommand*\acronymsort}[2]{##1}
\newcommand*\setacronymstyle}[1]{%
 \ifcsundef{@glsacr@dispstyle@#1}
 {%
 \PackageError{glossaries}{Undefined acronym style ‘#1’}{%
 }%
 {%
 \ifdefempty{\@glsacronymlists}%
 {%
 \DeclareAcronymList{acronymtype}%
 }%
 {}%
 \SetGenericNewAcronym
 \GlsUseAcrStyleDefs{##1}%
 \@for\@gls@type:=\@glsacronymlists\do{%
 \defglsentryfmt[\@gls@type]{\GlsUseAcrEntryDispStyle{##1}}%
 }%
 }%
}
\newcommand*\newacronymstyle}[3]{%
 \ifcsdef{@glsacr@dispstyle@#1}%
 {%
 \PackageError{glossaries}{Acronym style ‘#1’ already exists}{%
 }%
 {%
 \csdef{@glsacr@dispstyle@#1}{##2}%
 \csdef{@glsacr@styledefs@#1}{##3}%
 }%
}
\newcommand*\renewacronymstyle}[3]{%
 \ifcsdef{@glsacr@dispstyle@#1}%
 {%
 \csdef{@glsacr@dispstyle@#1}{##2}%
 \csdef{@glsacr@styledefs@#1}{##3}%
 }%
 {%

```

```

 \PackageError{glossaries}{Acronym style ‘#1’ doesn’t exist}{%
 }%
}
\newcommand*\GlsUseAcrEntryDispStyle}[1]{\csuse{@glsacr@dispstyle@#1}}
\newcommand*\GlsUseAcrStyleDefs}[1]{\csuse{@glsacr@styledefs@#1}}
\newacronymstyle{long-short}%
{%
 \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \renewcommand*\genacrfullformat}[2]{%
 \glsentrylong{##1}##2\space
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \Glsentrylong{##1}##2\space
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{##1}##2\space
 (\protect\firstacronymfont{\glsentryshortpl{##1}})%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \Glsentrylongpl{##1}##2\space
 (\protect\firstacronymfont{\glsentryshortpl{##1}})%
 }%
 \renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
 \renewcommand*\acronymsort}[2]{##1}%
 \renewcommand*\acronymfont}[1]{##1}%
 \renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
 \renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newacronymstyle{long-sp-short}%
{%
 \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \renewcommand*\genacrfullformat}[2]{%
 \glsentrylong{##1}##2\glsacsacspace{##1}%
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \Glsentrylong{##1}##2\glsacsacspace{##1}%
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{##1}##2\glsacsacspace{##1}%
 (\protect\firstacronymfont{\glsentryshortpl{##1}})%
 }%

```

```

}%
\renewcommand*\Genplacrfullformat}[2]{%
 \Glsentrylongpl{##1}##2\glsacspace{##1}%
 (\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newcommand*\glsacspace}[1]{%
 \settowidth{\dimen@}{(\firstacronymfont{\glsentryshort{##1}})%}
 \ifdim\dimen@<3em~\else\space\fi
}
\newacronymstyle{short-long}%
{
 \ifglsashaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\renewcommand*\genacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshort{##1}}##2\space
 (\glsentrylong{##1})%
}%
\renewcommand*\Genacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshort{##1}}##2\space
 (\glsentrylong{##1})%
}%
\renewcommand*\genplacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshortpl{##1}}##2\space
 (\glsentrylongpl{##1})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2\space
 (\glsentrylongpl{##1})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newacronymstyle{long-sc-short}%
{
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand*\acronymfont}[1]{\textsc{##1}}%

```

```

\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{long-sm-short}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{sc-short-long}%
{%
\GlsUseAcrEntryDispStyle{short-long}%
}%
{%
\GlsUseAcrStyleDefs{short-long}%
\renewcommand{\acronymfont}[1]{\textsc{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{sm-short-long}%
{%
\GlsUseAcrEntryDispStyle{short-long}%
}%
{%
\GlsUseAcrStyleDefs{short-long}%
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{long-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{long-sp-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-sp-short}%
}%
{%
\GlsUseAcrStyleDefs{long-sp-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\glsacspace{##1}(\acronymfont{\glsentryshort{##1}})}%
}

```



```

}
\newacronymstyle{long-sc-short-desc}%
{
 \GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{
 \GlsUseAcrStyleDefs{long-sc-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{long-sm-short-desc}%
{
 \GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{
 \GlsUseAcrStyleDefs{long-sm-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{short-long-desc}%
{
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{sc-short-long-desc}%
{
 \GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{
 \GlsUseAcrStyleDefs{sc-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{sm-short-long-desc}%
{
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{

```

```

\GlsUseAcrStyleDefs{sm-short-long}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{dua}%
{%
 \ifdefempty\glscustomtext
 {%
 \ifglshaslong{\glslabel}%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \glsentrylongpl{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylongpl{\glslabel}\glsinsert
 }%
 {\mfirstucMakeUppercase
 {\glsentrylongpl{\glslabel}\glsinsert}}%
 }%
 }%
 }%
 }%
 }%
 \glscapscase
 {%
 \glsentrylong{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylong{\glslabel}\glsinsert
 }%
 {\mfirstucMakeUppercase
 {\glsentrylong{\glslabel}\glsinsert}}%
 }%
 }%
 }%
 }%
 \glsgenentryfmt
 }%
 {\glscustomtext\glsinsert}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\glsentrylong{##2}##3\space

```

```

 (\acronymfont{\glsentryshort{##2}})}}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylong{##2}##3\space
 (\acronymfont{\glsentryshort{##2}})}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\glsentrylong{##2}##3\space
 (\acronymfont{\glsentryshort{##2}})}}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\glsentrylongpl{##2}##3\space
 (\acronymfont{\glsentryshortpl{##2}})}}}%
\renewcommand*{\glsentryfull}[1]{%
 \glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Glsentryfull}[1]{%
 \Glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
 \glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \Glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{dua-desc}%
{%
 \GlsUseAcrEntryDispStyle{dua}%
}%
{%
 \GlsUseAcrStyleDefs{dua}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymentry}[1]{\acronymfont{\glsentrylong{##1}}}%
 \renewcommand*{\acronymsort}[2]{##2}%
}%
\newacronymstyle{footnote}%
{%
 \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%

```

```

\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\glsHYperfirstfalse
\renewcommand*{\genacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshort{##1}}##2%
 \protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\Genacrfullformat}[2]{%
 \firstacronymfont{\Glsentryshort{##1}}##2%
 \protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\genplacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \mfirstucMakeUppercase{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}}%
\renewcommand*{\glsentryfull}[1]{%
 \acronymfont{\glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\Glsentryfull}[1]{%
 \acronymfont{\Glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\glsentryfullpl}[1]{%
 \acronymfont{\glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \acronymfont{\Glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%

```

```

}
\newacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}%
\newacronymstyle{footnote-sm}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}%
\newacronymstyle{footnote-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{footnote-sc-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sc}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{footnote-sm-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sm}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sm}%
 \renewcommand*{\GenericAcronymFields}{}%
}

```

```

\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newcommand*\DefineAcronymSynonyms){%
 \let\acs\acrshort
 \let\Acs\Acrshort
 \let\acsp\acrshortpl
 \let\Acsp\Acrshortpl
 \let\acl\aclong
 \let\aclp\aclongpl
 \let\Acl\Aclong
 \let\Aclp\Aclongpl
 \let\acf\acrfull
 \let\acfp\acrfullpl
 \let\Acf\Acrfull
 \let\Acfp\Acrfullpl
 \let\ac\gls
 \let\Ac\Gls
 \let\acp\glspl
 \let\Acp\Glspl
}
\ifglsacrshortcuts
 \DefineAcronymSynonyms
\fi
\newcommand*\SetDefaultAcronymDisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsgenentryfmt}%
}
\newcommand*\DefaultNewAcronymDef){%
 \edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 sort={\the\glsshorttok},%
 text={\the\glsshorttok},%
 first={\acrfullformat{\the\glslongtok}{\the\glsshorttok}},%
 plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 firstplural={\acrfullformat{\noexpand\expandonce\noexpand\@glo@longpl}%
 {\noexpand\expandonce\noexpand\@glo@shortpl}},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 description={\the\glslongtok},%
 descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 \the\glskeylisttok
 }%
 }%
\let\@org@gls@assign@firstpl\gls@assign@firstpl

```

```

\let\org@gl@assign@plural\gl@assign@plural
\let\org@gl@assign@descplural\gl@assign@descplural
\def\gl@assign@firstpl##1##2{%
 \@gl@expand@field{##1}{firstpl}{##2}%
}%
\def\gl@assign@plural##1##2{%
 \@gl@expand@field{##1}{plural}{##2}%
}%
\def\gl@assign@descplural##1##2{%
 \@gl@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gl@assign@firstpl\org@gl@assign@firstpl
\let\gl@assign@plural\org@gl@assign@plural
\let\gl@assign@symbolplural\org@gl@assign@symbolplural
\@gl@noexpand@assign@default@plurals
}
\newcommand*{\@gl@noexpand@assign@default@plurals}{%
 \expandafter\ifx\csname glo@the\gl@labeltok @plural\endcsname\@gl@@default@acr@plural
 \csxdef{glo@the\gl@labeltok @plural}{\expandonce\@glo@shortpl}%
 \fi
 \expandafter\ifx\csname glo@the\gl@labeltok @firstpl\endcsname\@gl@@default@acr@firstplural
 \csxdef{glo@the\gl@labeltok @firstpl}{%
 \expandonce\@glo@longpl\glsspace(\expandonce\@glo@shortpl)}%
 \fi
 \expandafter\ifx\csname glo@the\gl@labeltok @descplural\endcsname\@gl@@default@acr@descplural
 \csxdef{glo@the\gl@labeltok @descplural}{\expandonce\@glo@longpl}%
 \fi
}
\newcommand*{\@gl@@default@acr@plural}{\expandonce\@glo@shortpl}
\newcommand*{\@gl@@default@acr@firstplural}{%
 \expandonce\@glo@longpl\glsspace(\expandonce\@glo@shortpl)%
}
\newcommand*{\@gl@@default@acr@descplural}{\expandonce\@glo@longpl}
\newcommand*{\SetDefaultAcronymStyle}{%
 \@for\@gl@type:=\@gl@sacronymlists\do{%
 \SetDefaultAcronymDisplayStyle{\@gl@type}%
 }%
}
\renewcommand{\newacronym}[4][]{%
 \ifx\@gl@sacronymlists@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDefaultAcronymDisplayStyle{\@glo@type}%
 \fi
 \gl@keylisttok{##1}%
 \gl@labeltok{##2}%
 \gl@shorttok{##3}%
 \gl@longtok{##4}%
 \newacronymhook
}

```

```

\DefaultNewAcronymDef
}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newcommand*{\acrfootnote}[3]{\acrlinkfootnote{#1}{#2}{#3}}
\newcommand*{\acrlinkfootnote}[3]{%
\footnote{\glslink[#1]{#2}{#3}}%
}
\newcommand*{\acrnolinkfootnote}[3]{%
\footnote{#3}%
}
\newcommand*{\SetDescriptionFootnoteAcronymDisplayStyle}[1]{%
\defglsentryfmt[#1]{%
\ifdefempty\glscustomtext
{%
\ifglsused{\glslabel}%
{%
\acronymfont{\glsgenentryfmt}%
}%
{%
\firstacronymfont{\glsgenentryfmt}%
\ifgls hassymbol{\glslabel}%
{%
\expandafter\protect\expandafter\acrfootnote\expandafter
{\@gls@link@opts}{\@gls@link@label}%
{%
\glsifplural
{\glsentrysymbolplural{\glslabel}}%
{\glsentrysymbol{\glslabel}}%
}%
}%
}%
}%
{\glscustomtext\glsinsert}%
}%
}
\newcommand*{\DescriptionFootnoteNewAcronymDef}{%
\edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand\acronymfont{\the\glsshorttok}},%
sort={\the\glsshorttok},%
first={\the\glsshorttok},%
firstplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
}
}
}

```



```

 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 symbol={\the\glslongtok},%
 symbolplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetDescriptionFootnoteAcronymStyle}{%
 \ifglsacrsmallcaps
 \@gls@deprecated@acr@warning{footnote,smallcaps,description}%
 {footnote-sc-desc}{short-sc-footnote-desc}%
 \else
 \ifglsacrsmaller
 \@gls@deprecated@acr@warning{footnote,smaller,description}%
 {footnote-sm-desc}{short-sm-footnote-desc}%
 \else
 \@gls@deprecated@acr@warning{footnote,description}%
 {footnote-desc}{short-footnote-desc}%
 \fi
 \fi
\renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDescriptionFootnoteAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \DescriptionFootnoteNewAcronymDef
}%

```

```

\@for\@gls@type:=\@glsacronymlists\do{%
 \SetDescriptionFootnoteAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
 \renewcommand*\acronymfont[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
\else
 \ifglsacrsmaller
 \renewcommand*\acronymfont[1]{\textsmaller{##1}}%
 \fi
\fi
\ifglsacrdua
 \PackageError{glossaries}{Option clash: ‘footnote’ and ‘dua’
can’t both be set}{}%
\fi
}%
\newcommand*\SetDescriptionDUAAcronymDisplayStyle[1]{%
 \defglsentryfmt[##1]{\glsgenentryfmt}%
}
\newcommand*\DescriptionDUANewAcronymDef{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glslongtok},%
 sort={\the\glslongtok},%
 text={\the\glslongtok},%
 first={\the\glslongtok},%
 plural={\noexpand\expandonce\noexpand\@glo@longpl},%
 firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 symbol={\the\glsshorttok},%
 symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 \the\glskeylisttok
 }%
 }%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}

```

```

}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*\SetDescriptionDUAAcronymStyle{%
\ifglsacrsmallcaps
\PackageError{glossaries}{Option clash: ‘smallcaps’ and ‘dua’
can’t both be set}{}%
\else
\ifglsacrsmaller
\PackageError{glossaries}{Option clash: ‘smaller’ and ‘dua’
can’t both be set}{}%
\fi
\fi
\@gls@deprecated@acr@warning{dua,description}{dua-desc}{long-noshort-desc}%
\renewcommand*\newacronym[4][]{%
\ifx\@glsacronymlists\@empty
\def\@glo@type{\acronymtype}%
\setkeys{glossentry}{##1}%
\DeclareAcronymList{\@glo@type}%
\SetDescriptionDUAAcronymDisplayStyle{\@glo@type}%
\fi
\glskeylisttok{##1}%
\glslabeltok{##2}%
\glsshorttok{##3}%
\glslongtok{##4}%
\newacronymhook
\DescriptionDUANewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
\SetDescriptionDUAAcronymDisplayStyle{\@gls@type}%
}%
}%
\newcommand*\SetDescriptionAcronymDisplayStyle[1]{%
\defglsentryfmt[#1]{%
\ifdefempty\glscustomtext
{%
\ifglsused{\glslabel}%
{%
\let\gls@org@insert\glsinsert
\let\glsinsert\@empty
\acronymfont{\glsgenentryfmt}\gls@org@insert
}%
}%
\glsgenentryfmt
\ifglsymbol{\glslabel}%
{%
\glsifplural

```

```

 {%
 \def\@glo@symbol{\glsentrysymbolplural{\glslabel}}%
 }%
 {%
 \def\@glo@symbol{\glsentrysymbol{\glslabel}}%
 }%
 \space(\protect\firstacronymfont
 {\gls caps case
 {\@glo@symbol}
 {\@glo@symbol}
 {\mfirstucMakeUppercase{\@glo@symbol}}})%
 }%
 {}%
 }%
 }%
 {\gls custom text\gls insert}%
}
}
\newcommand*{\DescriptionNewAcronymDef}{%
\edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand
\acrnameformat{\the\glsshorttok}{\the\gls longtok}},%
sort={\the\glsshorttok},%
first={\the\gls longtok},%
firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\gls longtok},%
longplural={\the\gls longtok\noexpand\acrpluralsuffix},%
symbol={\noexpand\@glo@text},%
symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
\the\glskeylisttok}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
\@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
\@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
\@gls@expand@field{##1}{symbolplural}{##2}%
}%
}

```

```

\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetDescriptionAcronymStyle}{%
\ifglsacrsmallcaps
\@gls@deprecated@acr@warning{smallcaps,description}%
{long-sc-short-desc}{long-short-sc-desc}%
\else
\ifglsacrsmaller
\@gls@deprecated@acr@warning{smaller,description}%
{long-sm-short-desc}{long-short-sm-desc}%
\else
\@gls@deprecated@acr@warning{description}%
{long-short-desc}{long-short-desc}%
\fi
\fi
\renewcommand{\newacronym}[4][]{%
\ifx\@glsacronymlists\@empty
\def\@glo@type{\acronymtype}%
\setkeys{glossentry}{##1}%
\DeclareAcronymList{\@glo@type}%
\SetDescriptionAcronymDisplayStyle{\@glo@type}%
\fi
\glskeylisttok{##1}%
\glslabeltok{##2}%
\glsshorttok{##3}%
\glslongtok{##4}%
\newacronymhook
\DescriptionNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
\SetDescriptionAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
\renewcommand{\acronymfont}[1]{\textsc{##1}}
\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
\else
\ifglsacrsmaller
\renewcommand*{\acronymfont}[1]{\textsmaller{##1}}%
\fi
\fi
}%
\newcommand*{\SetFootnoteAcronymDisplayStyle}[1]{%
\defglsentryfmt[#1]{%
\ifdefempty\glscustomtext
{%
\let\gls@org@insert\glsinsert
\let\glsinsert\@empty

```

```

\ifglsused{\glslabel}%
{%
 \acronymfont{\glsgetentryfmt}\gls@org@insert
}%
{%
 \firstacronymfont{\glsgetentryfmt}\gls@org@insert
 \ifglsashaslong{\glslabel}%
 {%
 \expandafter\protect\expandafter\acrfootnote\expandafter
 {\@gls@link@opts}{\@gls@link@label}%
 {%
 \glsifplural
 {\glsentrylongpl{\glslabel}}%
 {\glsentrylong{\glslabel}}%
 }%
 }%
 }%
 {}%
}%
}%
{\glscustomtext\glsinsert}%
}%
}
\newcommand*{\FootnoteNewAcronymDef}{%
\edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\glsshorttok}},%
 sort={\the\glsshorttok},%
 text={\the\glsshorttok},%
 plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 first={\the\glsshorttok},%
 firstplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\gslongtok},%
 longplural={\the\gslongtok\noexpand\acrpluralsuffix},%
 description={\the\gslongtok},%
 descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 \the\glskeylisttok
 }%
}%
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}

```

```

}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@descplural\@org@gls@assign@descplural
}
\newcommand*\SetFootnoteAcronymStyle{%
 \ifglsacrsmallcaps
 \@gls@deprecated@acr@warning{footnote,smallcaps}{footnote-sc}{short-sc-footnote}%
 \else
 \ifglsacrsmaller
 \@gls@deprecated@acr@warning{footnote,smaller}{footnote-sm}{short-sm-footnote}%
 \else
 \@gls@deprecated@acr@warning{footnote}{footnote}{short-footnote}%
 \fi
 \fi
\renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetFootnoteAcronymDisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \FootnoteNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
 \SetFootnoteAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
 \renewcommand*\acronymfont[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
\else
 \ifglsacrsmaller
 \renewcommand*\acronymfont[1]{\textsmaller{##1}}%
 \fi
\fi
\ifglsacrdua
 \PackageError{glossaries}{Option clash: ‘footnote’ and ‘dua’
 can’t both be set}{%
\fi
}%
\DeclareRobustCommand*\glsdoparenifnotempty}[2]{%

```

```

\protected@edef\gls@tmp{#1}%
\ifdefempty\gls@tmp
{}%
{%
 \ifx\gls@tmp\@gls@default@value
 \else
 \space (#2{#1})%
 \fi
}%
}
\newcommand*\SetSmallAcronymDisplayStyle}[1]{%
\defglsentryfmt[#1]{%
\ifdefempty\gls@customtext
{%
 \let\gls@org@insert\gls@insert
 \let\gls@insert\@empty
 \ifglsused{\gls@label}%
 {%
 \acronymfont{\gls@genentryfmt}\gls@org@insert
 }%
 {%
 \gls@genentryfmt
 \ifgls@shassymbol{\gls@label}%
 {%
 \gls@ifplural
 {%
 \def\@glo@symbol{\gls@entrysymbolplural{\gls@label}}%
 }%
 {%
 \def\@glo@symbol{\gls@entrysymbol{\gls@label}}%
 }%
 \space
 (\gls@scapscase
 {\firstacronymfont{\@glo@symbol}}%
 {\firstacronymfont{\@glo@symbol}}%
 {\firstacronymfont{\mfirstucMakeUppercase{\@glo@symbol}}})%
 }%
 {}%
 }%
}%
{\gls@customtext\gls@insert}%
}%
}
\newcommand*\SmallNewAcronymDef){%
\edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\gls@labeltok}%
{%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\gls@shorttok}},%
 sort={\the\gls@shorttok},%

```



```

text={\the\glsshorttok},%
plural={\noexpand\expandonce\noexpand\@glo@shortpl},%
first={\the\glslongtok},%
firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\noexpand\@glo@first},%
descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
symbol={\the\glsshorttok},%
symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
\the\glskeylisttok
}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@descplural\gls@assign@descplural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@descplural\@org@gls@assign@descplural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\SetSmallAcronymStyle}{%
 \ifglsacrsmallcaps
 \gls@deprecated@acr@warning{smallcaps}{long-sc-short}{long-short-sc}%
 \else
 \gls@deprecated@acr@warning{smaller}{long-sm-short}{long-short-sm}%
 \fi
\renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetSmallAcronymDisplayStyle{\@glo@type}%
 \fi
}

```

```

\glskeylisttok{##1}%
\glslabeltok{##2}%
\glsshorttok{##3}%
\glslongtok{##4}%
\newacronymhook
\SmallNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
 \SetSmallAcronymDisplayStyle{\@gls@type}%
}%
\ifglsacrsmallcaps
 \renewcommand*\acronymfont}[1]{\textsc{##1}}
 \renewcommand*\acrpluralsuffix{\glsupacrpluralsuffix}%
\else
 \renewcommand*\acronymfont}[1]{\textsmaller{##1}}
\fi
\ifglsacrdua
 \ifglsacrsmallcaps
 \PackageError{glossaries}{Option clash: ‘smallcaps’ and ‘dua’
 can’t both be set}{}%
 \else
 \PackageError{glossaries}{Option clash: ‘smaller’ and ‘dua’
 can’t both be set}{}%
 \fi
\fi
}%
\newcommand*\SetDUADisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsgenentryfmt}%
}
\newcommand*\DUANewAcronymDef{%
 \edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 text={\the\glslongtok},%
 first={\the\glslongtok},%
 plural={\noexpand\expandonce\noexpand\@glo@longpl},%
 firstplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 description={\the\glslongtok},%
 descriptionplural={\noexpand\expandonce\noexpand\@glo@longpl},%
 symbol={\the\glsshorttok},%
 symbolplural={\noexpand\expandonce\noexpand\@glo@shortpl},%
 \the\glskeylisttok
 }%
 }%
}%

```

```

\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\let\@org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
 \@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@gls@expand@field{##1}{symbolplural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@gls@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
\let\gls@assign@descplural\@org@gls@assign@descplural
}
\newcommand*{\SetDUASStyle}{%
 \@gls@deprecated@acr@warning{dua}{dua}{long-noshort}%
 \renewcommand{\newacronym}[4][]{%
 \ifx\@glsacronymlists\@empty
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 \SetDUADisplayStyle{\@glo@type}%
 \fi
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \DUANewAcronymDef
 }%
 \@for\@gls@type:=\@glsacronymlists\do{%
 \SetDUADisplayStyle{\@gls@type}%
 }%
}
\newcommand*{\@gls@deprecated@acr@warning}[3]{%
 \GlossariesWarning{Acronym style option #1 deprecated.
 Use \string\setacronymstyle{#2} with just glossaries.sty or
 use \string\setabbreviationstyle[acronym]{#3} with
 glossaries-extra.sty}%
}
\newcommand*{\SetAcronymStyle}{%
 \SetDefaultAcronymStyle

```

```

\ifglsacrdescription
 \ifglsacrfootnote
 \SetDescriptionFootnoteAcronymStyle
 \else
 \ifglsacrdua
 \SetDescriptionDUAAcronymStyle
 \else
 \SetDescriptionAcronymStyle
 \fi
 \fi
\else
 \ifglsacrfootnote
 \SetFootnoteAcronymStyle
 \else
 \ifthenelse{\boolean{glsacrsmalldcaps}\OR
 \boolean{glsacrsmalld}}{%
 {%
 \SetSmallAcronymStyle
 }%
 }%
 \ifglsacrdua
 \SetDUASyle
 \fi
 }%
\fi
\fi
}
\SetAcronymStyle
\newcommand*{\SetCustomDisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsentryfmt}%
}
\newcommand*{\CustomAcronymFields}{%
 name={\the\glsshorttok},%
 description={\the\glslongtok},%
 first={\acrfullformat{\the\glslongtok}{\the\glsshorttok}},%
 firstplural={\acrfullformat
 {\noexpand\glsentrylongpl{\the\glslabeltok}}%
 {\noexpand\glsentryshortpl{\the\glslabeltok}}},%
 text={\the\glsshorttok},%
 plural={\the\glsshorttok\noexpand\acrpluralsuffix}%
}
\newcommand*{\CustomNewAcronymDef}{%
 \protected@edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 }
 }
}

```

```

 user1={\the\glsshorttok},%
 user2={\the\glsshorttok\noexpand\acrpluralsuffix},%
 user3={\the\glslongtok},%
 user4={\the\glslongtok\noexpand\acrpluralsuffix},%
 \CustomAcronymFields,%
 \the\glskeylisttok
 }%
}%
\do@newglossaryentry
}
\newcommand*{\SetCustomStyle}{%
\renewcommand{\newacronym}[4][{}]{%
\ifx\@glsacronymlists\@empty
\def\@gls@type{\acronymtype}%
\setkeys{glossentry}{##1}%
\DeclareAcronymList{\@gls@type}%
\SetCustomDisplayStyle{\@gls@type}%
\fi
\glskeylisttok{##1}%
\glslabeltok{##2}%
\glsshorttok{##3}%
\glslongtok{##4}%
\newacronymhook
\CustomNewAcronymDef
}%
\@for\@gls@type:=\@glsacronymlists\do{%
\SetCustomDisplayStyle{\@gls@type}%
}%
}
\RequirePackage{glossary-hypernav}[=v4.49]
\@gls@loadlist
\@gls@loadlong
\@gls@loadsuper
\@gls@loadtree
\ifx\@glossary@default@style\relax
\else
\setglossarystyle{\@glossary@default@style}
\fi
\newcommand*{\showgloparent}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@parent\endcsname
}
\newcommand*{\showglolevel}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@level\endcsname
}
\newcommand*{\showglotext}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@text\endcsname
}
\newcommand*{\showgloplural}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@plural\endcsname
}
}

```

```

\newcommand*\showglofirst}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@first\endcsname
}
\newcommand*\showglofirstpl}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@firstpl\endcsname
}
\newcommand*\showgloftype}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@ftype\endcsname
}
\newcommand*\showglocounter}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@counter\endcsname
}
\newcommand*\showglouser}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@user\endcsname
}
\newcommand*\showglouserii}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@userii\endcsname
}
\newcommand*\showglouseriii}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@useriii\endcsname
}
\newcommand*\showglouseriv}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@useriv\endcsname
}
\newcommand*\showglouserv}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@userv\endcsname
}
\newcommand*\showglouservi}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@uservi\endcsname
}
\newcommand*\showglongame}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@name\endcsname
}
\newcommand*\showglodesc}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@desc\endcsname
}
\newcommand*\showglodescplural}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@descplural\endcsname
}
\newcommand*\showglosort}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@sort\endcsname
}
\newcommand*\showglosymbol}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@symbol\endcsname
}
\newcommand*\showglosymbolplural}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@symbolplural\endcsname
}
\newcommand*\showgloshort}[1]{%
 \expandafter\show\csname glo@glstetoklabel{#1}@short\endcsname
}

```

```

}
\newcommand*\showglolong}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@long\endcsname
}
\newcommand*\showgloindex}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@index\endcsname
}
\newcommand*\showgloflag}[1]{%
 \expandafter\show\csname ifglo@\glsdetoklabel{#1}@flag\endcsname
}
\newcommand*\showglooclist}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@oclist\endcsname
}
\newcommand*\showglofield}[2]{%
 \csshow{glo@\glsdetoklabel{#1}@#2}%
}
\newcommand*\showacronymlists}{%
 \show\@glsacronymlists
}
\newcommand*\showglossaries}{%
 \show\@glo@types
}
\newcommand*\showglossaryin}[1]{%
 \expandafter\show\csname @glo@type@#1@in\endcsname
}
\newcommand*\showglossaryout}[1]{%
 \expandafter\show\csname @glo@type@#1@out\endcsname
}
\newcommand*\showglossarytitle}[1]{%
 \expandafter\show\csname @glo@type@#1@title\endcsname
}
\newcommand*\showglossarycounter}[1]{%
 \expandafter\show\csname @glo@type@#1@counter\endcsname
}
\newcommand*\showglossaryentries}[1]{%
 \expandafter\show\csname glist@#1\endcsname
}
\csname ifglscompatible-2.07\endcsname
 \RequirePackage{glossaries-compatible-207}[v4.49]
\fi

```

## 8.19 Rollback v4.49 (glossaries-accsupp-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-accsupp}[2021/11/01 v4.49 (NLCT)
 Experimental glossaries accessibility]
\DeclareOption*\PassOptionsToPackage{\CurrentOption}{glossaries}}
\ProcessOptions
\@ifpackageloaded{glossaries-extra}

```

```

{%
\ifx\@glsxtr@doaccsupp\empty
\GlossariesWarning{The 'glossaries-accsupp'
package has been loaded\MessageBreak
after the 'glossaries-extra' package. This\MessageBreak
can cause a failure to integrate both packages. \MessageBreak
Either use the 'accsupp' option when you load\MessageBreak
'glossaries-extra' or load 'glossaries-accsupp'\MessageBreak
before loading 'glossaries-extra'}%
\fi
}
{}
\def\compatibleglossentry#1#2{%
\toks@{#2}%
\protected@edef\@do@glossentry{%
\noexpand\accsuppglossaryentryfield{#1}%
{ \noexpand\glsnamefont
{\expandafter\expandonce\csname glo@\glsdetoklabel{#1}@name\endcsname}}%
{\expandafter\expandonce\csname glo@\glsdetoklabel{#1}@desc\endcsname}%
{\expandafter\expandonce\csname glo@\glsdetoklabel{#1}@symbol\endcsname}%
{\the\toks@}%
}%
\@do@glossentry
}
\def\compatiblesubglossentry#1#2#3{%
\toks@{#3}%
\protected@edef\@do@subglossentry{%
\noexpand\accsuppglossarysubentryfield{\number#1}%
{#2}%
{ \noexpand\glsnamefont
{\expandafter\expandonce\csname glo@\glsdetoklabel{#2}@name\endcsname}}%
{\expandafter\expandonce\csname glo@\glsdetoklabel{#2}@desc\endcsname}%
{\expandafter\expandonce\csname glo@\glsdetoklabel{#2}@symbol\endcsname}%
{\the\toks@}%
}%
\@do@subglossentry
}
\RequirePackage{glossaries}[v4.49]
\providecommand{\gls@accsupp@engine}{accsupp}
\providecommand{\gls@accessibility}[4]{#4}
\ifdefstring\gls@accsupp@engine{accsupp}
{
\RequirePackage{accsupp}
\renewcommand{\gls@accessibility}[4]{%
\BeginAccSupp{#1,#2={#3}}#4\EndAccSupp{}}
}
}
{}
\newcommand{\glsaccessibility}[4] [] {%
\@glsshowaccsupp{#1}{#2}{#3}%

```



```

\gls@accessibility{#1}{#2}{#3}{#4}%
}
\define@key{glossentry}{access}{%
 \def\@glo@access{#1}%
}
\define@key{glossentry}{textaccess}{%
 \def\@glo@textaccess{#1}%
}
\define@key{glossentry}{firstaccess}{%
 \def\@glo@firstaccess{#1}%
}
\define@key{glossentry}{pluralaccess}{%
 \def\@glo@pluralaccess{#1}%
}
\define@key{glossentry}{firstpluralaccess}{%
 \def\@glo@firstpluralaccess{#1}%
}
\define@key{glossentry}{symbolaccess}{%
 \def\@glo@symbolaccess{#1}%
}
\define@key{glossentry}{symbolpluralaccess}{%
 \def\@glo@symbolpluralaccess{#1}%
}
\define@key{glossentry}{descriptionaccess}{%
 \def\@glo@descaccess{#1}%
}
\define@key{glossentry}{descriptionpluralaccess}{%
 \def\@glo@descpluralaccess{#1}%
}
\define@key{glossentry}{shortaccess}{%
 \def\@glo@shortaccess{#1}%
}
\define@key{glossentry}{shortpluralaccess}{%
 \def\@glo@shortpluralaccess{#1}%
}
\define@key{glossentry}{longaccess}{%
 \def\@glo@longaccess{#1}%
}
\define@key{glossentry}{longpluralaccess}{%
 \def\@glo@longpluralaccess{#1}%
}
\define@key{glossentry}{user1access}{%
 \def\@glo@useriaccess{#1}%
}
\define@key{glossentry}{user2access}{%
 \def\@glo@useriiaccess{#1}%
}
\define@key{glossentry}{user3access}{%
 \def\@glo@useriiiaccess{#1}%
}
}

```

```

\define@key{glossentry}{user4access}{%
 \def\@glo@userivaccess{#1}%
}
\define@key{glossentry}{user5access}{%
 \def\@glo@uservaccess{#1}%
}
\define@key{glossentry}{user6access}{%
 \def\@glo@userviaccess{#1}%
}
\appto\@gls@keymap{,%
 {access}{access},%
 {textaccess}{textaccess},%
 {firstaccess}{firstaccess},%
 {pluralaccess}{pluralaccess},%
 {firstpluralaccess}{firstpluralaccess},%
 {symbolaccess}{symbolaccess},%
 {symbolpluralaccess}{symbolpluralaccess},%
 {descaccess}{descaccess},%
 {descpluralaccess}{descpluralaccess},%
 {shortaccess}{shortaccess},%
 {shortpluralaccess}{shortpluralaccess},%
 {longaccess}{longaccess},%
 {longpluralaccess}{longpluralaccess},%
 {user1access}{useriaccess},%
 {user2access}{useriiaccess},%
 {user3access}{useriiiaccess},%
 {user4access}{userivaccess},%
 {user5access}{uservaccess},%
 {user6access}{userviaccess}%
}
\def\@gls@noaccess{\relax}
\let\@gls@oldnewglossaryentryprehook\@newglossaryentryprehook
\renewcommand*\@newglossaryentryprehook{%
 \@gls@oldnewglossaryentryprehook
 \def\@glo@access{\relax}%
 \def\@glo@textaccess{\@glo@access}%
 \def\@glo@firstaccess{\@glo@access}%
 \def\@glo@pluralaccess{\@glo@textaccess}%
 \def\@glo@firstpluralaccess{\@glo@pluralaccess}%
 \def\@glo@symbolaccess{\relax}%
 \def\@glo@symbolpluralaccess{\@glo@symbolaccess}%
 \def\@glo@descaccess{\relax}%
 \def\@glo@descpluralaccess{\@glo@descaccess}%
 \def\@glo@shortaccess{\relax}%
 \def\@glo@shortpluralaccess{\@glo@shortaccess}%
 \def\@glo@longaccess{\relax}%
 \def\@glo@longpluralaccess{\@glo@longaccess}%
 \def\@glo@useriaccess{\relax}%
 \def\@glo@useriiaccess{\relax}%
 \def\@glo@useriiiaccess{\relax}%
}

```

```

\def@glo@userivaccess{\relax}%
\def@glo@uservaccess{\relax}%
\def@glo@userviaccess{\relax}%
}
\let@gls@oldnewglossaryentryposthook@newglossaryentryposthook
\renewcommand*{@newglossaryentryposthook}{%
 @gls@oldnewglossaryentryposthook
 \expandafter
 \protected@xdef\csname glo@\@glo@label @access\endcsname{%
 \glo@access}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @textaccess\endcsname{%
 \glo@textaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @firstaccess\endcsname{%
 \glo@firstaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @pluralaccess\endcsname{%
 \glo@pluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @firstpluralaccess\endcsname{%
 \glo@firstpluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @symbolaccess\endcsname{%
 \glo@symbolaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @symbolpluralaccess\endcsname{%
 \glo@symbolpluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @descaccess\endcsname{%
 \glo@descaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @descpluralaccess\endcsname{%
 \glo@descpluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @shortaccess\endcsname{%
 \glo@shortaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @shortpluralaccess\endcsname{%
 \glo@shortpluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @longaccess\endcsname{%
 \glo@longaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @longpluralaccess\endcsname{%
 \glo@longpluralaccess}%
 \expandafter
 \protected@xdef\csname glo@\@glo@label @useriaccess\endcsname{%
 \glo@useriaccess}%
 \expandafter

```

```

\protected@xdef\csname glo@\glo@label @useriaccess\endcsname{%
 \@glo@useriaccess}%
\expandafter
\protected@xdef\csname glo@\glo@label @useriiiaccess\endcsname{%
 \@glo@useriiiaccess}%
\expandafter
\protected@xdef\csname glo@\glo@label @userivaccess\endcsname{%
 \@glo@userivaccess}%
\expandafter
\protected@xdef\csname glo@\glo@label @uservaccess\endcsname{%
 \@glo@uservaccess}%
\expandafter
\protected@xdef\csname glo@\glo@label @userviaccess\endcsname{%
 \@glo@userviaccess}%
}
\newcommand*\@glsentryaccess}[1]{%
 \@gls@entry@field{#1}{access}%
}
\newcommand*\@glsentrytextaccess}[1]{%
 \@gls@entry@field{#1}{textaccess}%
}
\newcommand*\@glsentryfirstaccess}[1]{%
 \@gls@entry@field{#1}{firstaccess}%
}
\newcommand*\@glsentrypluralaccess}[1]{%
 \@gls@entry@field{#1}{pluralaccess}%
}
\newcommand*\@glsentryfirstpluralaccess}[1]{%
 \@gls@entry@field{#1}{firstpluralaccess}%
}
\newcommand*\@glsentrysymbolaccess}[1]{%
 \@gls@entry@field{#1}{symbolaccess}%
}
\newcommand*\@glsentrysymbolpluralaccess}[1]{%
 \@gls@entry@field{#1}{symbolpluralaccess}%
}
\newcommand*\@glsentrydescaccess}[1]{%
 \@gls@entry@field{#1}{descaccess}%
}
\newcommand*\@glsentrydescpluralaccess}[1]{%
 \@gls@entry@field{#1}{descpluralaccess}%
}
\newcommand*\@glsentryshortaccess}[1]{%
 \@gls@entry@field{#1}{shortaccess}%
}
\newcommand*\@glsentryshortpluralaccess}[1]{%
 \@gls@entry@field{#1}{shortpluralaccess}%
}
\newcommand*\@glsentrylongaccess}[1]{%
 \@gls@entry@field{#1}{longaccess}%
}

```

```

}
\newcommand*{\glsentrylongpluralaccess}[1]{%
 \@gls@entry@field{#1}{longpluralaccess}%
}
\newcommand*{\glsentryuseriaccess}[1]{%
 \@gls@entry@field{#1}{useriaccess}%
}
\newcommand*{\glsentryuseriiaccess}[1]{%
 \@gls@entry@field{#1}{useriiaccess}%
}
\newcommand*{\glsentryuseriiiaccess}[1]{%
 \@gls@entry@field{#1}{useriiiaccess}%
}
\newcommand*{\glsentryuserivaccess}[1]{%
 \@gls@entry@field{#1}{userivaccess}%
}
\newcommand*{\glsentryuservaccess}[1]{%
 \@gls@entry@field{#1}{uservaccess}%
}
\newcommand*{\glsentryuserviaccess}[1]{%
 \@gls@entry@field{#1}{userviaccess}%
}
}
\newcommand{\glsfieldaccsupp}[4]{%
 \ifdef\glscategory
 {%
 \ifcsdef{glsxtr\glscategory{#4}#3accsupp}%
 {\csname glsxtr\glscategory{#4}#3accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{glsxtr\glscategory{#4}accsupp}%
 {\csname glsxtr\glscategory{#4}accsupp\endcsname{#1}{#2}}%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
 }%
 }%
 {%
 \ifcsdef{gls#3accsupp}%
 {\csname gls#3accsupp\endcsname{#1}{#2}}%
 {\glsaccsupp{#1}{#2}}%
 }%
}
\newcommand{\xglsfieldaccsupp}[1]{%
 \protected@edef\@gls@replacementtext{#1}%
 \expandafter\glsfieldaccsupp\expandafter{\@gls@replacementtext}%
}
\newcommand*{\glsshortaccsupp}[2]{\glsaccessibility{E}{#1}{#2}}
\newcommand*{\glsshortplaccsupp}{\glsshortaccsupp}
\newcommand*{\glsaccsupp}[2]{\glsaccessibility{ActualText}{#1}{#2}}

```

```

\newcommand*\xglsaccsupp}[2]{%
 \protected@edef\@gls@replacementtext{#1}%
 \expandafter\glsaccsupp\expandafter{\@gls@replacementtext}{#2}%
}
\newcommand*\@gls@access@display}[2]{%
 \protected@edef\@glo@access{#2}%
 \ifx\@glo@access\@gls@noaccess
 #1%
 \else
 \xglsaccsupp{\@glo@access}{#1}%
 \fi
}
\newcommand*\@gls@fieldaccess@display}[4]{%
 \protected@edef\@glo@access{#4}%
 \ifdefequal\@glo@access\@gls@noaccess
 {#3}%
 {\expandafter\glsfieldaccsupp\expandafter{\@glo@access}{#3}{#2}{#1}}%
}
\newrobustcmd*\glsnameaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@access}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{name}{#1}{\glsentryaccess{#2}}}%
}
\newrobustcmd*\gls@textaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@textaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{text}{#1}{\glsentrytextaccess{#2}}}%
}
\newrobustcmd*\glspluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@pluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{plural}{#1}{\glsentrypluralaccess{#2}}}%
}
\newrobustcmd*\glsfirstaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{first}{#1}{\glsentryfirstaccess{#2}}}%
}
\newrobustcmd*\glsfirstpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@firstpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{firstpl}{#1}{\glsentryfirstpluralaccess{#2}}}%
}
\newrobustcmd*\gls@symbolaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{symbol}{#1}{\glsentrysymbolaccess{#2}}}%
}
\newrobustcmd*\gls@symbolpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@symbolpluralaccess}%

```

```

 {#1}%
 {\@gls@fieldaccess@display{#2}{symbolplural}{#1}{\glsentrysymbolpluralaccess{#2}}}%
 }
\newrobustcmd*{\glsdescriptionaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@descaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{desc}{#1}{\glsentrydescaccess{#2}}}%
}
\newrobustcmd*{\glsdescriptionpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@descpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{descplural}{#1}{\glsentrydescpluralaccess{#2}}}%
}
\newrobustcmd*{\glsshortaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@shortaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{short}{#1}{\glsentryshortaccess{#2}}}%
}
\newrobustcmd*{\glsshortpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@shortpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{shortpl}{#1}{\glsentryshortpluralaccess{#2}}}%
}
\newrobustcmd*{\glslongaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@longaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{long}{#1}{\glsentrylongaccess{#2}}}%
}
\newrobustcmd*{\glslongpluralaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@longpluralaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{longpl}{#1}{\glsentrylongpluralaccess{#2}}}%
}
\newrobustcmd*{\glsuseriaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@useriaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{useri}{#1}{\glsentryuseriaccess{#2}}}%
}
\newrobustcmd*{\glsuseriiaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@useriiaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{userii}{#1}{\glsentryuseriiaccess{#2}}}%
}
\newrobustcmd*{\glsuseriiiaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@useriiiaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{useriii}{#1}{\glsentryuseriiiaccess{#2}}}%
}
\newrobustcmd*{\glsuserivaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@userivaccess}%

```

```

 {#1}%
 {\@gls@fieldaccess@display{#2}{useriv}{#1}{\glsentryuserivaccess{#2}}}%
 }
\newrobustcmd*{\glsuservaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@uservaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{userv}{#1}{\glsentryuservaccess{#2}}}%
}
\newrobustcmd*{\glsuserviaccessdisplay}[2]{%
 \ifcsundef{glo@\glsdetoklabel{#2}@userviaccess}%
 {#1}%
 {\@gls@fieldaccess@display{#2}{uservi}{#1}{\glsentryuserviaccess{#2}}}%
}
\newrobustcmd*{\glsaccessdisplay}[3]{%
 \ifcsundef{gls#1accessdisplay}%
 {%
 \PackageError{glossaries-accsupp}{No accessibility support
 for key ‘#1’}{%
 }%
 {%
 \csname gls#1accessdisplay\endcsname{#2}{#3}%
 }%
 }
}
\renewcommand*{\@gls@default@entryfmt}[2]{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 #2{\glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glsymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}
 {\glsinsert}%
 }%
 }%
 }%
 #1{\glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glsymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}%
 }%
}%
}

```



```

{%
 \ifglused\glslabel
 {%
 #2{\glspluralaccessdisplay
 {\Glsentryplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 {%
 #1{\glsfirstpluralaccessdisplay
 {\Glsentryfirstplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
}%
{%
 \ifglused\glslabel
 {%
 \MakeUppercase{%
 #2{\glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 {%
 \MakeUppercase{%
 #1{\glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}}%
 {\glsdescriptionpluralaccessdisplay
 {\glsentrydescplural{\glslabel}}{\glslabel}}%
 {\glssymbolpluralaccessdisplay
 {\glsentrysymbolplural{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 }%
 }%
 }%
 \glscapscale
 {%
 \ifglused\glslabel
 {%

```

```

#2{\glstextaccessdisplay
 {\glsentrytext{\glslabel}}{\glslabel}}%
{\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
{\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
{\glsinsert}%
}%
{%
#1{\glsfirstaccessdisplay
 {\glsentryfirst{\glslabel}}{\glslabel}}%
{\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
{\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
{\glsinsert}%
}%
}%
{%
\ifglsused\glslabel
{%
#2{\glstextaccessdisplay
 {\Glsentrytext{\glslabel}}{\glslabel}}%
{\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
{\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
{\glsinsert}%
}%
{%
#1{\glsfirstaccessdisplay
 {\Glsentryfirst{\glslabel}}{\glslabel}}%
{\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
{\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
{\glsinsert}%
}%
}%
{%
\ifglsused\glslabel
{%
\MakeUppercase{%
#2{\glstextaccessdisplay
 {\glsentrytext{\glslabel}}{\glslabel}}%
{\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
{\glssymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
{\glsinsert}}%
}
}
}

```

```

 }%
 {%
 \MakeUppercase{%
 #1{\glsfirstaccessdisplay
 {\glsentryfirst{\glslabel}}{\glslabel}}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 }%
 }%
 {%
 \ifglsused{\glslabel}%
 {%
 #2{\glscustomtext}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 {%
 #1{\glscustomtext}%
 {\glsdescriptionaccessdisplay
 {\glsentrydesc{\glslabel}}{\glslabel}}%
 {\glsymbolaccessdisplay
 {\glsentrysymbol{\glslabel}}{\glslabel}}%
 {\glsinsert}}%
 }%
 }%
}
\renewcommand*{\glsgenentryfmt}{%
 \ifdefempty\glscustomtext
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstpluralaccessdisplay
 {\glsentryfirstplural{\glslabel}}{\glslabel}%
 }%
 }%
 }%
 }%
}

```

```

 \glsinsert
 }%
}%
{%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\Glsentryplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstpluralaccessdisplay
 {\Glsentryfirstplural{\glslabel}}{\glslabel}%
 \glsinsert
 }%
}%
{%
 \ifglsused\glslabel
 {%
 \glspluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentryplural{\glslabel}}}%
 {\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 {%
 \glsfirstpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentryfirstplural{\glslabel}}}%
 {\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
}%
}%
{%
 \glscapscase
 {%
 \ifglsused\glslabel
 {%
 \glstextaccessdisplay{\glsentrytext{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glsfirstaccessdisplay{\glsentryfirst{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 }%
}%
{%
 \ifglsused\glslabel
 {%
 \glstextaccessdisplay{\Glsentrytext{\glslabel}}{\glslabel}%
 \glsinsert
 }%
}

```

```

}%
{%
 \glsfirstaccessdisplay{\Glsentryfirst{\glslabel}}{\glslabel}%
 \glsinsert
}%
}%
{%
 \ifglsused\glslabel
 {%
 \glstextaccessdisplay
 {\mfirstucMakeUppercase{\glstext{\glslabel}}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
 {%
 \glsfirstaccessdisplay
 {\mfirstucMakeUppercase{\Glsentryfirst{\glslabel}}}{\glslabel}%
 \mfirstucMakeUppercase{\glsinsert}%
 }%
}%
}%
}%
{%
 \glscustomtext\glsinsert
}%
}
\renewcommand*{\glsacronymfont}{%
 \ifdefempty\glscustomtext
 {%
 \ifglsused\glslabel
 {%
 \glsifplural
 {%
 \glscapsfont
 {%
 \acronymfont
 {\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 }%
 \acronymfont
 {\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont
 {\glsshortpluralaccessdisplay
 {\Glsentryshortpl{\glslabel}}{\glslabel}}%
 }%
 }%
 }%
}

```

```

 \glsinsert}%
 }%
}%
{%
 \glscapscase
 {%
 \acronymfont
 {\glsshortaccessdisplay{\glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 {%
 \acronymfont
 {\glsshortaccessdisplay{\Glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert
 }%
 {%
 \mfirstucMakeUppercase
 {\acronymfont{%
 \glsshortaccessdisplay{\glsentryshort{\glslabel}}{\glslabel}}%
 \glsinsert}%
 }%
}%
}%
{%
 \glsifplural
 {%
 \glscapscase
 {%
 \genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genplacrfullformat{\glslabel}{\glsinsert}}%
 }%
 }%
}%
{%
 \glscapscase
 {%
 \genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \mfirstucMakeUppercase
 {\genacrfullformat{\glslabel}{\glsinsert}}%
 }%
}

```

```

 }%
 }%
}%
{%
 \glscustomtext
}%
}
\renewcommand*{\genacrfullformat}[2]{%
 \glslongaccessdisplay{\glsentrylong{#1}}{#1}#2\space
 (\glsshortaccessdisplay{\protect\firstacronymfont{\glsentryshort{#1}}}{#1})%
}
\renewcommand*{\Genacrfullformat}[2]{%
 \glslongaccessdisplay{\Glsentrylong{#1}}{#1}#2\space
 (\glsshortaccessdisplay{\protect\firstacronymfont{\Glsentryshort{#1}}}{#1})%
}
\renewcommand*{\genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{#1}}{#1}#2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{#1}}}{#1})%
}
\renewcommand*{\Genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{#1}}{#1}#2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\Glsentryshortpl{#1}}}{#1})%
}
\def\@acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay{\glsentryshort{#2}}{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\def\@Acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \let\glsifplural\@secondoftwo
 \let\glsapsaps\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsshortaccessdisplay{\Glsentryshort{#2}}{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
}

```

```

}%
\glspostlinkhook
}
\def\@ACRshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\glsshortaccessdisplay
{\MakeUppercase{\glentryshort{#2}}}{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrlong#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\glslongaccessdisplay{\glentrylong{#2}}{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@Acrlong#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax
\let\glsifplural\@secondoftwo
\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\glslongaccessdisplay{\Glsentrylong{#2}}{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@ACRlong#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\relax

```



```

\let\glsifplural\@secondoftwo
\let\glsifcaps\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
 \acronymfont{\glslongaccessdisplay{%
 \MakeUppercase{\glsentrylong{#2}}}{#2}#3}%
 }%
 \@gls@link{#1}{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@gls@text@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\gls@text@accessdisplay{\glsentrytext{#2}}}{#2}#3}%
}
\def\@Gls@text@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Gls@text@accessdisplay{\Glsentrytext{#2}}}{#2}#3}%
}
\def\@GLS@text@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\gls@text@accessdisplay{\mfirstucMakeUppercase{\glsentrytext{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}}%
}
}
\def\@gls@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\gls@first@accessdisplay{\glsentryfirst{#2}}}{#2}#3}%
}
\def\@Gls@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Gls@first@accessdisplay{\Glsentryfirst{#2}}}{#2}#3}%
}
\def\@GLS@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\gls@first@accessdisplay{\mfirstucMakeUppercase{\glsentryfirst{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}}%
}
}
\def\@gls@plural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\gls@plural@accessdisplay{\glsentryplural{#2}}}{#2}#3}%
}
\def\@Gls@plural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Gls@plural@accessdisplay{\Glsentryplural{#2}}}{#2}#3}%
}
\def\@GLS@plural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\gls@plural@accessdisplay{\mfirstucMakeUppercase{\glsentryplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}}%
}
}
\def\@gls@firstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\gls@firstplural@accessdisplay{\glsentryfirstplural{#2}}}{#2}#3}%
}
\def\@Gls@firstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Gls@firstplural@accessdisplay{\Glsentryfirstplural{#2}}}{#2}#3}%
}
}

```

```

\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsfirstpluralaccessdisplay{\mfirstucMakeUppercase{\glsentryfirstplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\glsentryname{#2}}{#2}#3}%
}
\def\@Glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsnameaccessdisplay{\Glsentryname{#2}}{#2}#3}%
}
\def\@GLSname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsnameaccessdisplay{\mfirstucMakeUppercase{\glsentryname{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\glsentrydesc{#2}}{#2}#3}%
}
\def\@Glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionaccessdisplay{\Glsentrydesc{#2}}{#2}#3}%
}
\def\@GLSdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsdescriptionaccessdisplay{\mfirstucMakeUppercase{\glsentrydesc{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\glsentrydescplural{#2}}{#2}#3}%
}
\def\@Glsdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsdescriptionpluralaccessdisplay{\Glsentrydescplural{#2}}{#2}#3}%
}
\def\@GLSdescplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsdescriptionpluralaccessdisplay{\mfirstucMakeUppercase{\glsentrydescplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsymbolaccessdisplay{\glsentrysymbol{#2}}{#2}#3}%
}
\def\@Glsymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsymbolaccessdisplay{\Glsentrysymbol{#2}}{#2}#3}%
}
\def\@GLSsymbol@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsymbolaccessdisplay{\mfirstucMakeUppercase{\glsentrysymbol{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsymbolplural@#1#2[#3]{%

```

```

 \@gls@field@link{#1}{#2}{\glssymbolpluralaccessdisplay{\glstentrysymbolplural{#2}}{#2}#3}%
}
\def\@Glsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssymbolpluralaccessdisplay{\glstentrysymbolplural{#2}}{#2}#3}%
}
\def\@GLSsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glssymbolpluralaccessdisplay{\mfirstucMakeUppercase{\glstentrysymbolplural{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\glstentryuseri{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriaccessdisplay{\Glsentryuseri{#2}}{#2}#3}%
}
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriaccessdisplay{\mfirstucMakeUppercase{\glstentryuseri{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\glstentryuserii{#2}}{#2}#3}%
}
\def\@Glsuser@ii#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiaccessdisplay{\Glsentryuserii{#2}}{#2}#3}%
}
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriiaccessdisplay{\mfirstucMakeUppercase{\glstentryuserii{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\glstentryuseriii{#2}}{#2}#3}%
}
\def\@Glsuser@iii#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuseriiiaccessdisplay{\Glsentryuseriii{#2}}{#2}#3}%
}
\def\@GLSuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{%
 {\glsuseriiiaccessdisplay{\mfirstucMakeUppercase{\glstentryuseriii{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
 }
}
\def\@glsuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\glstentryuseriv{#2}}{#2}#3}%
}
\def\@Glsuser@iv#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserivaccessdisplay{\Glsentryuseriv{#2}}{#2}#3}%
}
\def\@GLSuseriv@#1#2[#3]{%

```

```

\@gls@field@link{#1}{#2}%
 {\glsuserivaccessdisplay{\mfirstucMakeUppercase{\glsentryuseriv{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\glsentryuserv{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuservaccessdisplay{\Glsentryuserv{#2}}{#2}#3}%
}
\def\@GLSuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuservaccessdisplay{\mfirstucMakeUppercase{\glsentryuserv{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\def\@glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserviaccessdisplay{\glsentryuservi{#2}}{#2}#3}%
}
\def\@Glsuser@i#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuserviaccessdisplay{\Glsentryuservi{#2}}{#2}#3}%
}
\def\@GLSuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}%
 {\glsuserviaccessdisplay{\mfirstucMakeUppercase{\glsentryuservi{#2}}}{#2}%
 \mfirstucMakeUppercase{#3}}%
}
\renewcommand*{\glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\glsentryname{#1}}{#1}}%
 }%
}
\renewcommand*{\glossentryname}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsnamefont{\glsnameaccessdisplay{\Glsentryname{#1}}{#1}}%
 }%
}
\renewcommand*{\glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\glsentrydesc{#1}}{#1}%
 }%
}
\renewcommand*{\Glossentrydesc}[1]{%
 \glsdoifexists{#1}%
 {%
 \glsdescriptionaccessdisplay{\Glsentrydesc{#1}}{#1}%
 }%
}

```

```

\renewcommand*\glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%
 \glssymbolaccessdisplay{\glsentrysymbol{#1}}{#1}%
 }%
}
\renewcommand*\Glossentrysymbol}[1]{%
 \glsdoifexists{#1}%
 {%
 \glssymbolaccessdisplay{\Glsentrysymbol{#1}}{#1}%
 }%
}
\newcommand*\accsuppglossaryentryfield}[5]{%
 \glossaryentryfield{#1}%
 {\glsnameaccessdisplay{#2}{#1}}%
 {\glsdescriptionaccessdisplay{#3}{#1}}%
 {\glssymbolaccessdisplay{#4}{#1}}{#5}%
}
\newcommand*\accsuppglossarysubentryfield}[6]{%
 \glossarysubentryfield{#1}{#2}%
 {\glsnameaccessdisplay{#3}{#2}}%
 {\glsdescriptionaccessdisplay{#4}{#2}}%
 {\glssymbolaccessdisplay{#5}{#2}}{#6}%
}
\renewacronymstyle{long-short}%
{%
 \ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \renewcommand*\genacrfullformat}[2]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}##2\space
 (\glsshortaccessdisplay
 {\protect\firstacronymfont{\glsentryshort{##1}}}{##1})%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \glslongaccessdisplay{\Glsentrylong{##1}}{##1}##2\space
 (\glsshortaccessdisplay
 {\protect\firstacronymfont{\glsentryshort{##1}}}{##1})%
 }%
 \renewcommand*\genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}##2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1})%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}##2\space
 (\glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1})%
 }%
}

```

```

\renewcommand*\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1}}
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\renewacronymstyle{short-long}%
{%
 \ifglschaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\renewcommand*\genacrfullformat}[2]{%
 \glsshortaccessdisplay
 {\protect\firstacronymfont{\glentryshort{##1}}}{##1}##2\space
 (\glslongaccessdisplay{\glentrylong{##1}}{##1})%
}%
\renewcommand*\Genacrfullformat}[2]{%
 \glsshortaccessdisplay
 {\protect\firstacronymfont{\Glsentryshort{##1}}}{##1}##2\space
 (\glslongaccessdisplay{\glentrylong{##1}}{##1})%
}%
\renewcommand*\genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\glentryshortpl{##1}}}{##1}##2\space
 (\glslongpluralaccessdisplay
 {\glentrylongpl{##1}}{##1})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \glsshortpluralaccessdisplay
 {\protect\firstacronymfont{\Glsentryshortpl{##1}}}{##1}##2\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##1}}{##1})%
}%
\renewcommand*\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\renewacronymstyle{long-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymsort}[2]{##2}%
\renewcommand*\acronymentry}[1]{%

```

```

 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}})%
 }
\renewacronymstyle{long-sc-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sc-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}})%
 }
\renewacronymstyle{long-sm-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sm-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}})%
 }
\renewacronymstyle{short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}})%
 }
\renewacronymstyle{sc-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sc-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}})%
 }

```

```

}
\renewacronymstyle{sm-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sm-short-long}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})}%
}
\renewacronymstyle{dua}%
{%
 \ifdefempty\glscustomtext
 {%
 \ifglshaslong{\glslabel}%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \glslongpluralaccessdisplay{\glsentrylongpl{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glslongpluralaccessdisplay{\Glsentrylongpl{\glslabel}}{\glslabel}%
 \glsinsert
 }%
 {%
 \glslongpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylongpl{\glslabel}}}{\glslabel}%
 {\mfirstucMakeUppercase{\glsinsert}}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \glslongaccessdisplay{\glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%
 \glslongaccessdisplay{\Glsentrylong{\glslabel}}{\glslabel}\glsinsert
 }%
 {%
 \glslongaccessdisplay
 {\mfirstucMakeUppercase
 {\glsentrylong{\glslabel}\glsinsert}}{\glslabel}%
 {\mfirstucMakeUppercase{\glsinsert}}%
 }%
 }%
 }%
}

```



```

 }%
 }%
 {%
 \glsgenentryfmt
 }%
}%
{\glscustomtext\glsinsert}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay{\Glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylong{##2}}{##2}##3\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##2}}}{##2})}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\Glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glslongpluralaccessdisplay
 {\mfirstucMakeUppercase{\glsentrylongpl{##2}}{##2}##3\space
 (\glsshortpluralaccessdisplay
 {\acronymfont{\glsentryshortpl{##2}}}{##2})}}%
\renewcommand*{\glsentryfull}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}%
\renewcommand*{\Glsentryfull}[1]{%
 \glslongaccessdisplay{\Glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
}%
\renewcommand*{\glsentryfullpl}[1]{%

```

```

\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}\space
(\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}}{##1})%
}%
\renewcommand*\Glsentryfullpl[1]{%
\glslongpluralaccessdisplay{\Glsentrylongpl{##1}}{##1}\space
(\glsshortpluralaccessdisplay{\acronymfont{\glsentryshortpl{##1}}}{##1})%
}%
\renewcommand*\acronymentry[1]{%
\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1}%
\renewcommand*\acronymsort[2]{##1}%
\renewcommand*\acronymfont[1]{##1}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\renewacronymstyle{dua-desc}%
{%
\GlsUseAcrEntryDispStyle{dua}%
}%
{%
\GlsUseAcrStyleDefs{dua}%
\renewcommand*\GenericAcronymFields{}%
\renewcommand*\acronymentry[1]{%
\glslongaccessdisplay{\acronymfont{\glsentrylong{##1}}}{##1}%
\renewcommand*\acronymsort[2]{##2}%
}%
\renewacronymstyle{footnote}%
{%
\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\glshyperfirstfalse
\renewcommand*\genacrfullformat[2]{%
\glsshortaccessdisplay
{\protect\firstacronymfont{\glsentryshort{##1}}}{##1}##2%
\protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}{##1}}%
}%
\renewcommand*\Genacrfullformat[2]{%
\glsshortaccessdisplay
{\firstacronymfont{\Glsentryshort{##1}}}{##1}##2%
\protect\footnote{\glslongaccessdisplay{\glsentrylong{##1}}{##1}}%
}%
\renewcommand*\genplacrfullformat[2]{%
\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\glsentryshortpl{##1}}}{##1}##2%
\protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}}%
}%
\renewcommand*\Genplacrfullformat[2]{%
\glsshortpluralaccessdisplay
{\protect\firstacronymfont{\Glsentryshortpl{##1}}}{##1}##2%
\protect\footnote{\glslongpluralaccessdisplay{\glsentrylongpl{##1}}{##1}}%
}

```

```

}%
\renewcommand*{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}{##1}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##2}}{##2}}##3\space
 (\glslongaccessdisplay{\glentrylong{##2}}{##2})}}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##2}}{##2}}##3\space
 (\glslongaccessdisplay{\glentrylong{##2}}{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortaccessdisplay
 {\mfirstucMakeUppercase
 {\acronymfont{\glentryshort{##2}}{##2}}##3\space
 (\glslongaccessdisplay{\glentrylong{##2}}{##2})}}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glentryshortpl{##2}}{##2}}##3\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##2}}{##2})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glentryshortpl{##2}}{##2}}##3\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##2}}{##2})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsshortpluralaccessdisplay
 {\mfirstucMakeUppercase
 {\acronymfont{\glentryshortpl{##2}}{##2}}##3\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##2}}{##2})}}}%
\renewcommand*{\glentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}{##1}}\space
 (\glslongaccessdisplay{\glentrylong{##1}}{##1})}%
\renewcommand*{\Glentryfull}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}{##1}}\space
 (\glslongaccessdisplay{\glentrylong{##1}}{##1})}%
\renewcommand*{\glentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glentryshortpl{##1}}{##1}}\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##1}}{##1})}%
\renewcommand*{\Glentryfullpl}[1]{%
 \glsshortpluralaccessdisplay
 {\acronymfont{\glentryshortpl{##1}}{##1}}\space
 (\glslongpluralaccessdisplay{\glentrylongpl{##1}}{##1})}%

```

```

}
\renewacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1}}
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glstextup{\glspluralsuffix}}%
}%
\renewacronymstyle{footnote-sm}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{%
 \glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1}}
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}%
\renewacronymstyle{footnote-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1})}%
}
\renewacronymstyle{footnote-sc-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sc}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glslongaccessdisplay{\glentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glentryshort{##1}}}{##1})}%
}
\renewacronymstyle{footnote-sm-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sm}%
}

```

```

}%
{%
 \GlsUseAcrStyleDefs{footnote-sm}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glslongaccessdisplay{\glsentrylong{##1}}{##1}\space
 (\glsshortaccessdisplay{\acronymfont{\glsentryshort{##1}}}{##1})%
 }
 \newcommand*\glsdefaultshortaccess}[2]{#1}
 \renewcommand*\newacronymhook{%
 \protected@edef\@gls@keylist{%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 shortpluralaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 \the\glskeylisttok}%
 \expandafter\glskeylisttok\expandafter{\@gls@keylist}%
 }
 \renewcommand*\DefaultNewAcronymDef{%
 \edef\@do@newglossaryentry{%
 \noexpandnewglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\the\glsshorttok},%
 description={\the\glslongtok},%
 descriptionaccess=\relax,%
 text={\the\glsshorttok},%
 access={\noexpand\@glo@textaccess},%
 sort={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 descriptionplural={\the\glslongtok\noexpand\acrpluralsuffix},%
 first={\noexpand\glslongaccessdisplay
 {\the\glslongtok}{\the\glslabeltok}\space
 (\noexpand\glsshortaccessdisplay
 {\the\glsshorttok}{\the\glslabeltok})},%
 plural={\the\glsshorttok\acrpluralsuffix},%
 firstplural={\noexpand\glslongpluralaccessdisplay
 {\noexpand\@glo@longpl}{\the\glslabeltok}\space
 (\noexpand\glsshortpluralaccessdisplay
 {\noexpand\@glo@shortpl}{\the\glslabeltok})},%
 firstaccess=\relax,%
 firstpluralaccess=\relax,%
 textaccess={\noexpand\@glo@shortaccess},%
 \the\glskeylisttok
 }%
 }%
 }
 \let\@org@gls@assign@firstpl\gls@assign@firstpl

```

```

\let\org@gl@assign@plural\gl@assign@plural
\let\org@gl@assign@descplural\gl@assign@descplural
\def\gl@assign@firstpl##1##2{%
 \@gl@expand@field{##1}{firstpl}{##2}%
}%
\def\gl@assign@plural##1##2{%
 \@gl@expand@field{##1}{plural}{##2}%
}%
\def\gl@assign@descplural##1##2{%
 \@gl@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gl@assign@firstpl\org@gl@assign@firstpl
\let\gl@assign@plural\org@gl@assign@plural
\let\gl@assign@symbolplural\org@gl@assign@symbolplural
\@gl@noexpand@assign@default@plurals
}
\renewcommand*{\DescriptionFootnoteNewAcronymDef}{%
\edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\gl@labeltok}%
 {%
 type=\acronymtype,%
 name={\noexpand\acronymfont{\the\gl@shorttok}},%
 sort={\the\gl@shorttok},%
 text={\the\gl@shorttok},%
 short={\the\gl@shorttok},%
 shortplural={\the\gl@shorttok\noexpand\acrpluralsuffix},%
 shortaccess={\gl@defaultshortaccess{\the\gl@longtok}{\the\gl@shorttok}},%
 long={\the\gl@longtok},%
 longplural={\the\gl@longtok\noexpand\acrpluralsuffix},%
 access={\noexpand\@glo@textaccess},%
 plural={\the\gl@shorttok\noexpand\acrpluralsuffix},%
 symbol={\the\gl@longtok},%
 symbolplural={\the\gl@longtok\noexpand\acrpluralsuffix},%
 firstpluralaccess=\relax,
 textaccess={\noexpand\@glo@shortaccess},%
 \the\gl@keylisttok
 }%
}%
\let\org@gl@assign@firstpl\gl@assign@firstpl
\let\org@gl@assign@plural\gl@assign@plural
\let\org@gl@assign@symbolplural\gl@assign@symbolplural
\def\gl@assign@firstpl##1##2{%
 \@gl@expand@field{##1}{firstpl}{##2}%
}%
\def\gl@assign@plural##1##2{%
 \@gl@expand@field{##1}{plural}{##2}%
}%
\def\gl@assign@symbolplural##1##2{%
 \@gl@expand@field{##1}{symbolplural}{##2}%
}

```

```

}%
\do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\renewcommand*{\DescriptionNewAcronymDef}{%
\edef\do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand
\acronymformat{\the\glsshorttok}{\the\glslongtok}},%
access={\noexpand\@glo@textaccess},%
sort={\the\glsshorttok},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
first={\the\glslongtok},%
firstaccess=\relax,
firstplural={\the\glslongtok\noexpand\acrpluralsuffix},%
text={\the\glsshorttok},%
textaccess={\the\glslongtok},%
plural={\the\glsshorttok\noexpand\acrpluralsuffix},%
symbol={\noexpand\@glo@text},%
symbolaccess={\noexpand\@glo@textaccess},%
symbolplural={\noexpand\@glo@plural},%
firstpluralaccess=\relax,
textaccess={\noexpand\@glo@shortaccess},%
\the\glskeylisttok}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
\@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
\@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
\@gls@expand@field{##1}{symbolplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}

```

```

\renewcommand*{\FootnoteNewAcronymDef}{%
\edef\do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand\acronymfont{\the\glsshorttok}},%
sort={\the\glsshorttok},%
text={\the\glsshorttok},%
textaccess={\the\glslongtok},%
access={\noexpand\@glo@textaccess},%
plural={\the\glsshorttok\noexpand\acrpluralsuffix},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\the\glslongtok},%
descriptionplural={\the\glslongtok\noexpand\acrpluralsuffix},%
\the\glskeylisttok
}%
}%
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@descplural\gls@assign@descplural
\def\gls@assign@firstpl##1##2{%
\@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
\@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
\@gls@expand@field{##1}{descplural}{##2}%
}%
\do@newglossaryentry
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@descplural\@org@gls@assign@descplural
}
\renewcommand*{\SmallNewAcronymDef}{%
\edef\do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\noexpand\acronymfont{\the\glsshorttok}},%
access={\noexpand\@glo@symbolaccess},%
sort={\the\glsshorttok},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
shortaccess={\glsdefaultshortaccess{\the\glslongtok}{\the\glsshorttok}},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%

```



```

text={\noexpand\@glo@short},%
textaccess={\noexpand\@glo@shortaccess},%
plural={\noexpand\@glo@shortpl},%
first={\the\glslongtok},%
firstaccess=\relax,
firstplural={\the\glslongtok\noexpand\acrpluralsuffix},%
description={\noexpand\@glo@first},%
descriptionplural={\noexpand\@glo@firstplural},%
symbol={\the\glsshorttok},%
symbolaccess={\the\glslongtok},%
symbolplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
\the\glskeylisttok
}%
}%
\let\@org@gls@assign@firstpl\gls@assign@firstpl
\let\@org@gls@assign@plural\gls@assign@plural
\let\@org@gls@assign@descplural\gls@assign@descplural
\let\@org@gls@assign@symbolplural\gls@assign@symbolplural
\def\gls@assign@firstpl##1##2{%
 \@@gls@expand@field{##1}{firstpl}{##2}%
}%
\def\gls@assign@plural##1##2{%
 \@@gls@expand@field{##1}{plural}{##2}%
}%
\def\gls@assign@descplural##1##2{%
 \@@gls@expand@field{##1}{descplural}{##2}%
}%
\def\gls@assign@symbolplural##1##2{%
 \@@gls@expand@field{##1}{symbolplural}{##2}%
}%
\@do@newglossaryentry
\let\gls@assign@firstpl\@org@gls@assign@firstpl
\let\gls@assign@plural\@org@gls@assign@plural
\let\gls@assign@descplural\@org@gls@assign@descplural
\let\gls@assign@symbolplural\@org@gls@assign@symbolplural
}
\newcommand*{\glsshortaccesskey}{\glsshortkey access}%
\newcommand*{\glsshortpluralaccesskey}{\glsshortpluralkey access}%
\newcommand*{\glslongaccesskey}{\glslongkey access}%
\newcommand*{\glslongpluralaccesskey}{\glslongpluralkey access}%
\newcommand*{\showglongnameaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@access\endcsname
}
\newcommand*{\showglotextaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@textaccess\endcsname
}
\newcommand*{\showglopluralaccess}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@pluralaccess\endcsname
}
\newcommand*{\showglofirstaccess}[1]{%

```

```

\expandafter\show\csname glo@glstetoklabel{#1}@firstaccess\endcsname
}
\newcommand*\showglofirstpluralaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@firstpluralaccess\endcsname
}
\newcommand*\showglosymbolaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@symbolaccess\endcsname
}
\newcommand*\showglosymbolpluralaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@symbolpluralaccess\endcsname
}
\newcommand*\showglodescaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@descaccess\endcsname
}
\newcommand*\showglodescpluralaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@descpluralaccess\endcsname
}
\newcommand*\showgloshortaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@shortaccess\endcsname
}
\newcommand*\showgloshortpluralaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@shortpluralaccess\endcsname
}
\newcommand*\showglolongaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@longaccess\endcsname
}
\newcommand*\showglolongpluralaccess}[1]{%
\expandafter\show\csname glo@glstetoklabel{#1}@longpluralaccess\endcsname
}
}

```

## 8.20 Rollback v4.49 (glossaries-babel-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-babel}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
\AnyTrackedLanguages
{%
\ForEachTrackedDialect{\this@dialect}{%
\IfTrackedLanguageFileExists{\this@dialect}%
{glossaries-}% prefix
{.ldf}%
}%
\RequireGlossariesLang{\CurrentTrackedTag}%
}%
{%
\PackageWarningNoLine{glossaries}%
{No language module detected for ‘\this@dialect’.\MessageBreak

```

```

 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 ‘glossaries-\CurrentTrackedLanguage’ or similar}%
 }%
} %
} %
{} %

```

## 8.21 Rollback v4.49 (glossaries-compatible-207-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-compatible-207}[2021/11/01 v4.49 (NLCT)]
\ifglxsindy
 \renewcommand*\GlsAddXdyAttribute[1]{%
 \edef\xdyattributes{\@xdyattributes ^^J \string"#1\string"}%
 \expandafter\toks@\expandafter{\@xdylocref}%
 \edef\xdylocref{the\toks@ ^^J%
 (markup-locref
 :open \string"\string~n\string\setentrycounter
 {\noexpand\glscounter}%
 \expandafter\string\csname#1\endcsname
 \expandafter@gobble\string\{\string" ^^J
 :close \string"\expandafter@gobble\string\}\string" ^^J
 :attr \string"#1\string")}}
\fi
\renewcommand*\GlsAddXdyCounters[1]{%
 \GlossariesWarning{\string\GlsAddXdyCounters\space not available
 in compatibility mode.}%
}
\GlsAddXdyAttribute{glsnumberformat}
\GlsAddXdyAttribute{textrm}
\GlsAddXdyAttribute{textsf}
\GlsAddXdyAttribute{texttt}
\GlsAddXdyAttribute{textbf}
\GlsAddXdyAttribute{textmd}
\GlsAddXdyAttribute{textit}
\GlsAddXdyAttribute{textup}
\GlsAddXdyAttribute{textsl}
\GlsAddXdyAttribute{textsc}
\GlsAddXdyAttribute{emph}
\GlsAddXdyAttribute{glsnumber}
\GlsAddXdyAttribute{hyperrm}
\GlsAddXdyAttribute{hypersf}
\GlsAddXdyAttribute{hypertt}
\GlsAddXdyAttribute{hyperbf}
\GlsAddXdyAttribute{hypermd}
\GlsAddXdyAttribute{hyperit}

```

```

\GlsAddXdyAttribute{hyperup}
\GlsAddXdyAttribute{hypersl}
\GlsAddXdyAttribute{hypersc}
\GlsAddXdyAttribute{hyperemph}
\ifglxindy
 \renewcommand*{\GlsAddXdyLocation}[2]{%
 \edef\@xdyuserlocationdefs{%
 \@xdyuserlocationdefs ^^J%
 (define-location-class \string"#1\string"^^J\space\space
 \space(#2))
 }%
 \edef\@xdyuserlocationnames{%
 \@xdyuserlocationnames^^J\space\space\space
 \string"#1\string"}%
 }
\fi
\renewcommand{\@do@wrglossary}[1]{%
\ifglxindy
 \expandafter\@glo@check@mkidxrangear\@glsnumberformat\@nil
 \def\@glo@range{}%
 \expandafter\if\@glo@prefix(\relax
 \def\@glo@range{:open-range}%
 \else
 \expandafter\if\@glo@prefix)\relax
 \def\@glo@range{:close-range}%
 \fi
 \fi
 \protected@edef\@glslocref{\theglentrycounter}%
 \@gls@checkmkidchars\@glslocref
 \glossary[\csname glo@#1@type\endcsname]{%
 (indexentry :tkey (\csname glo@#1@index\endcsname)
 :locref \string"\@glslocref\string" %
 :attr \string"\@glo@suffix\string" \@glo@range
)
 }%
\else
 \@set@glo@numformat\@glo@numfmt\@gls@counter\@glsnumberformat
 \glossary[\csname glo@#1@type\endcsname]{%
 \string\glossaryentry{\csname glo@#1@index\endcsname
 \@gls@encapchar\@glo@numfmt}{\theglentrycounter}}%
 \fi
}
\def\@set@glo@numformat#1#2#3{%
 \expandafter\@glo@check@mkidxrangear#3\@nil
 \protected@edef#1{%
 \@glo@prefix setentrycounter[]#{#2}%
 \expandafter\string\csname\@glo@suffix\endcsname
 }%
 \@gls@checkmkidchars#1%
}

```

```

\ifglxindy
\def\writeist{%
 \openout\glswrite=\istfilename
 \write\glswrite{;; xindy style file created by the glossaries
 package in compatible-2.07 mode}%
 \write\glswrite{;; for document '\jobname' on
 \the\year-\the\month-\the\day}%
 \write\glswrite{^^J; required styles^^J}
 \@for\@xdystyle:=\@xdyrequiredstyles\do{%
 \ifx\@xdystyle\@empty
 \else
 \protected@write\glswrite{{(require
 \string"\@xdystyle.xdy\string")}}%
 \fi
 }%
 \write\glswrite{^^J%
 ; list of allowed attributes (number formats)^^J}%
 \write\glswrite{(define-attributes ((\@xdyattributes)))}%
 \write\glswrite{^^J; user defined alphabets^^J}%
 \write\glswrite{\@xdyuseralphabets}%
 \write\glswrite{^^J; location class definitions^^J}%
 \protected@edef\@gls@roman{\@roman{0}\string"
 \string"roman-numbers-lowercase\string" :sep \string"}}%
 \@onelevel@sanitize\@gls@roman
 \edef\@tmp{\string" \string"roman-numbers-lowercase\string"
 :sep \string"}%
 \@onelevel@sanitize\@tmp
 \ifx\@tmp\@gls@roman
 \write\glswrite{(define-location-class
 \string"roman-page-numbers\string"^^J\space\space\space
 (\string"roman-numbers-lowercase\string")
 :min-range-length \@glsminrange)}%
 \else
 \write\glswrite{(define-location-class
 \string"roman-page-numbers\string"^^J\space\space\space
 (:sep "\@gls@roman")
 :min-range-length \@glsminrange)}%
 \fi
 \write\glswrite{(define-location-class
 \string"Roman-page-numbers\string"^^J\space\space\space
 (\string"roman-numbers-uppercase\string")
 :min-range-length \@glsminrange)}%
 \write\glswrite{(define-location-class
 \string"arabic-page-numbers\string"^^J\space\space\space
 (\string"arabic-numbers\string")
 :min-range-length \@glsminrange)}%
 \write\glswrite{(define-location-class
 \string"alpha-page-numbers\string"^^J\space\space\space
 (\string"alpha\string")
 :min-range-length \@glsminrange)}%

```

```

\write\glswrite{(define-location-class
 \string"Alpha-page-numbers\string"^^J\space\space\space
 (\string"ALPHA\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"Appendix-page-numbers\string"^^J\space\space\space
 (\string"ALPHA\string"
 :sep \string"\@glsAlphacompositor\string"
 \string"arabic-numbers\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{(define-location-class
 \string"arabic-section-numbers\string"^^J\space\space\space
 (\string"arabic-numbers\string"
 :sep \string"\glscompositor\string"
 \string"arabic-numbers\string")
 :min-range-length \@glsminrange)}%
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
 :unverified)}%
\write\glswrite{(markup-crossref-list
 :class \string"see\string"^^J\space\space\space
 :open \string"\string\glsseeformat\string"
 :close \string"{}\string")}%
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
 (\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
 :open \string"\string
 \glossarysection[\string\glossarytoctitle]{\string
 \glossarytitle}\string\glossary preamble\string~n\string\begin
 {theglossary}\string\glossaryheader\string~n\string" ^^J\space
 \space\space:close \string"\expandafter@gobble
 \string%\string~n\string
 \end{theglossary}\string\glossarypostamble
 \string~n\string" ^^J\space\space\space
 :tree)}}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\string~n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \string~n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\gls closebrace\string")}%
\write\glswrite{(markup-locref-list

```

```

:sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
:sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffixF
\@onelevel@sanitize\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
\write\glswrite{(markup-range
:close "\gls@suffixF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffixFF\@empty
\else
\write\glswrite{(markup-range
:close "\gls@suffixFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
:sep \string"\string\glsgroupskip\string~n\string")}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
:open-head \string"\string\glsgroupheading
\glsopenbrace\string"^^J\space\space\space
:close-head \string"\glsclosebrace\string")}%
\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{\@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}
\write\glswrite{\@xdysortrules}%
\noist}
\else
\edef\@gls@actualchar{\string?}
\edef\@gls@encapchar{\string|}
\edef\@gls@levelchar{\string!}
\edef\@gls@quotechar{\string"}
\def\writeist{\relax
\openout\glswrite=\istfilename
\write\glswrite{\expandafter\@gobble\string\% makeindex style file
created by the glossaries package}
\write\glswrite{\expandafter\@gobble\string\% for document
'\jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '\@gls@actualchar'}
\write\glswrite{encap '\@gls@encapchar'}
\write\glswrite{level '\@gls@levelchar'}
\write\glswrite{quote '\@gls@quotechar'}
\write\glswrite{keyword \string"\string\glossaryentry\string"}
\write\glswrite{preamble \string"\string\glossarysection[\string
\glossarytoctitle]{\string\glossarytitle}\string
\glossarypreamble\string\n\string\begin{theglossary}\string
\glossaryheader\string\n\string"}

```

```

\write\glswrite{postamble \string"\string%\string\n\string
 \end{theglossary}\string\glossarypostamble\string\n
 \string"}
\write\glswrite{group_skip \string"\string\glsgroupskip\string\n
 \string"}
\write\glswrite{item_0 \string"\string%\string\n\string"}
\write\glswrite{item_1 \string"\string%\string\n\string"}
\write\glswrite{item_2 \string"\string%\string\n\string"}
\write\glswrite{item_01 \string"\string%\string\n\string"}
\write\glswrite{item_x1
 \string"\string\relax \string\glsresetentrylist\string\n
 \string"}
\write\glswrite{item_12 \string"\string%\string\n\string"}
\write\glswrite{item_x2
 \string"\string\relax \string\glsresetentrylist\string\n
 \string"}
\write\glswrite{delim_0 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_1 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_2 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_t \string"\string\}\string}\string"}
\write\glswrite{delim_n \string"\string\delimN \string"}
\write\glswrite{delim_r \string"\string\delimR \string"}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
 \string"\string\glsgroupheading\string\{\string"}
\write\glswrite{heading_suffix
 \string"\string}\string\relax
 \string\glsresetentrylist \string"}
\write\glswrite{symhead_positive \string"glssymbols\string"}
\write\glswrite{numhead_positive \string"glnumbers\string"}
\write\glswrite{page_compositor \string"glscompositor\string"}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF@empty
\else
 \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF@empty
\else
 \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi
\noist
}
\fi
\renewcommand*{\noist}{\let\writeist\relax}

```



## 8.22 Rollback v4.49 (glossaries-compatible-307-2021-11-01.sty)

Version 4.49 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-compatible-307}[2021/11/01 v4.49 (NLCT)]
\newcommand{\compatglossarystyle}[2]{%
 \ifcsundef{@glscompstyle@#1}%
 {%
 \csdef{@glscompstyle@#1}{#2}%
 }%
 {%
 \PackageError{glossaries}{Glossary compatibility style ‘#1’ is already defined}{}%
 }%
}
\compatglossarystyle{inline}{%
 \renewcommand{\glossaryentryfield}[5]{%
 \glsinlinedopostchild
 \gls@inlinesep
 \def\glo@desc{##3}%
 \def\@no@post@desc{\nopostdesc}%
 \glsentryitem{##1}\glsinlinenameformat{##1}{##2}%
 \ifx\glo@desc\@no@post@desc
 \glsinlineemptydescformat{##4}{##5}%
 \else
 \ifstrempy{##3}%
 {\glsinlineemptydescformat{##4}{##5}}%
 {\glsinlinedescformat{##3}{##4}{##5}}%
 \fi
 \ifglshaschildren{##1}%
 {%
 \glsresetsubentrycounter
 \glsinlineparentchildseparator
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{\glsinlinepostchild}%
 }%
 {}%
 \def\gls@inlinesep{\glsinlineseparator}%
 }%
 \renewcommand{\glossarysubentryfield}[6]{%
 \gls@inlinesubsep%
 \glsinlinesubnameformat{##2}{##3}%
 \glssubentryitem{##2}\glsinlinesubdescformat{##4}{##5}{##6}%
 \def\gls@inlinesubsep{\glsinlinesubseparator}%
 }%
}
\compatglossarystyle{list}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[\glsentryitem{##1}\glstarget{##1}{##2}]
```

```

 ##3\glspostdescription\space ##5}%
 \renewcommand*\glossarysubentryfield}[6]{%
 \glsentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6.}%
}
\compatglossarystyle{listgroup}{%
 \csuse{@glscompstyle@list}%
}%
\compatglossarystyle{listhypergroup}{%
 \csuse{@glscompstyle@list}%
}%
\compatglossarystyle{altlist}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[\glsentryitem{##1}\glstarget{##1}{##2}]%
 \mbox{}\par\nobreak\@afterheading
 ##3\glspostdescription\space ##5}%
 \renewcommand*\glossarysubentryfield}[6]{%
 \par
 \glsentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6}%
}%
\compatglossarystyle{altlistgroup}{%
 \csuse{@glscompstyle@altlist}%
}%
\compatglossarystyle{altlisthypergroup}{%
 \csuse{@glscompstyle@altlist}%
}%
\compatglossarystyle{listdotted}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glsentryitem{##1}\glstarget{##1}{##2}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}##3}%
 \renewcommand*\glossarysubentryfield}[6]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glsentryitem{##2}%
 \glstarget{##2}{##3}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}##4}%
}%
\compatglossarystyle{sublistdotted}{%
 \csuse{@glscompstyle@listdotted}%
 \renewcommand*\glossaryentryfield}[5]{%
 \item[\glsentryitem{##1}\glstarget{##1}{##2}]}%
}%
\compatglossarystyle{long}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glsentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5\\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glsentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6\\}%
}

```

```

}%
\compatglossarystyle{longborder}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{longheader}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{longheaderborder}{%
 \csuse{@glscompstyle@long}%
}%
\compatglossarystyle{long3col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glstarget{##1}{##2} & ##3 & ##5\\}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\\}%
}%
\compatglossarystyle{long3colborder}{%
 \csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long3colheader}{%
 \csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long3colheaderborder}{%
 \csuse{@glscompstyle@long3col}%
}%
\compatglossarystyle{long4col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glstarget{##1}{##2} & ##3 & ##4 & ##5\\}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\\}%
}%
\compatglossarystyle{long4colheader}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{long4colborder}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{long4colheaderborder}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4col}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4colheader}{%
 \csuse{@glscompstyle@long4col}%
}%

```

```

\compatglossarystyle{altlong4colborder}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{altlong4colheaderborder}{%
 \csuse{@glscompstyle@long4col}%
}%
\compatglossarystyle{longragged}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glstarget{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5%
 \tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6%
 \tabularnewline}%
}%
\compatglossarystyle{longraggedborder}{%
 \csuse{@glscompstyle@longragged}%
}%
\compatglossarystyle{longraggedheader}{%
 \csuse{@glscompstyle@longragged}%
}%
\compatglossarystyle{longraggedheaderborder}{%
 \csuse{@glscompstyle@longragged}%
}%
\compatglossarystyle{longragged3col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glstarget{##1}\glstarget{##1}{##2} & ##3 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\tabularnewline}%
}%
\compatglossarystyle{longragged3colborder}{%
 \csuse{@glscompstyle@longragged3col}%
}%
\compatglossarystyle{longragged3colheader}{%
 \csuse{@glscompstyle@longragged3col}%
}%
\compatglossarystyle{longragged3colheaderborder}{%
 \csuse{@glscompstyle@longragged3col}%
}%
\compatglossarystyle{altlongragged4col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glstarget{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\tabularnewline}%
}%

```

```

\compatglossarystyle{altlongragged4colheader}{%
 \csuse{@glscompstyle@altlong4col}%
}%
\compatglossarystyle{altlongragged4colborder}{%
 \csuse{@glscompstyle@altlong4col}%
}%
\compatglossarystyle{altlongragged4colheaderborder}{%
 \csuse{@glscompstyle@altlong4col}%
}%
\compatglossarystyle{index}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \item\glstarget{##1}{##2}}%
 \ifx\relax##4\relax
 \else
 \space{##4}%
 \fi
 \space ##3\glspostdescription \space ##5}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 \ifcase##1\relax
 % level 0
 \item
 \or
 % level 1
 \subitem
 \glssubentryitem{##2}%
 \else
 % all other levels
 \subsubitem
 \fi
 \textbf{\glstarget{##2}{##3}}%
 \ifx\relax##5\relax
 \else
 \space{##5}%
 \fi
 \space##4\glspostdescription\space ##6}%
 }%
\compatglossarystyle{indexgroup}{%
 \csuse{@glscompstyle@index}%
}%
\compatglossarystyle{indexhypergroup}{%
 \csuse{@glscompstyle@index}%
}%
\compatglossarystyle{tree}{%
 \renewcommand{\glossaryentryfield}[5]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glstarget{##1}{##2}}%
 \ifx\relax##4\relax
 \else
 \space{##4}%
 \fi
 }%

```

```

\fi
\space ##3\glspostdescription \space ##5\par}%
\renewcommand{\glossarysubentryfield}[6]{%
\hangindent##1\glstreeindent\relax
\parindent##1\glstreeindent\relax
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\textbf{\glstarget{##2}{##3}}%
\ifx\relax##5\relax
\else
\space(##5)%
\fi
\space##4\glspostdescription\space ##6\par}%
}%
\compatglossarystyle{treegroup}{%
\csuse{@glscmpstyle@tree}%
}%
\compatglossarystyle{treehypergroup}{%
\csuse{@glscmpstyle@tree}%
}%
\compatglossarystyle{treenoname}{%
\renewcommand{\glossaryentryfield}[5]{%
\hangindent0pt\relax
\parindent0pt\relax
\glssubentryitem{##1}\textbf{\glstarget{##1}{##2}}%
\ifx\relax##4\relax
\else
\space(##4)%
\fi
\space ##3\glspostdescription \space ##5\par}%
\renewcommand{\glossarysubentryfield}[6]{%
\hangindent##1\glstreeindent\relax
\parindent##1\glstreeindent\relax
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\glstarget{##2}{\strut}%
##4\glspostdescription\space ##6\par}%
}%
\compatglossarystyle{treenonamegroup}{%
\csuse{@glscmpstyle@treenoname}%
}%
\compatglossarystyle{treenonamehypergroup}{%
\csuse{@glscmpstyle@treenoname}%
}%
\compatglossarystyle{almtree}{%
\renewcommand{\glossaryentryfield}[5]{%
\ifnum\@gls@prevlevel=0\relax
\else

```

```

 \settowidth{\glstreeindent}{\textbf{\@glswidestname\space}}%
 \hangindent\glstreeindent
 \parindent\glstreeindent
 \fi
 \makebox[0pt][r]{\makebox[\glstreeindent][l]{%
 \glstentryitem{##1}\textbf{\glstarget{##1}{##2}}}%
 \ifx\relax##4\relax
 \else
 (##4)\space
 \fi
 ##3\glspostdescription\space##5\par
 \def\@gls@prevlevel{0}%
}%
\renewcommand{\glossarysubentryfield}[6]{%
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \ifnum\@gls@prevlevel=##1\relax
 \else
 \@ifundefined{@glswidestname\romannumeral##1}{%
 \settowidth{\gls@tmplen}{\textbf{\@glswidestname\space}}{%
 \settowidth{\gls@tmplen}{\textbf{%
 \csname @glswidestname\romannumeral##1\endcsname\space}}}%
 \ifnum\@gls@prevlevel<##1\relax
 \setlength\glstreeindent\gls@tmplen
 \addtolength\glstreeindent\parindent
 \parindent\glstreeindent
 \else
 \@ifundefined{@glswidestname\romannumeral\@gls@prevlevel}{%
 \settowidth{\glstreeindent}{\textbf{%
 \@glswidestname\space}}}%
 \settowidth{\glstreeindent}{\textbf{%
 \csname @glswidestname\romannumeral\@gls@prevlevel
 \endcsname\space}}}%
 \addtolength\parindent{-\glstreeindent}%
 \setlength\glstreeindent\parindent
 \fi
 \fi
 \hangindent\glstreeindent
 \makebox[0pt][r]{\makebox[\gls@tmplen][l]{%
 \textbf{\glstarget{##2}{##3}}}%
 \ifx##5\relax\relax
 \else
 (##5)\space
 \fi
 ##4\glspostdescription\space##6\par
 \def\@gls@prevlevel{##1}%
}%
}%
\compatglossarystyle{almtreeegroup}{%

```

```

\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{almtreehypergroup}{%
\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolindex}{%
\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcolindexgroup}{%
\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcolindexhypergroup}{%
\csuse{@glscompstyle@index}%
}%
\compatglossarystyle{mcoltree}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolindextreegroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolindextreehypergroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreename}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreenamegroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcoltreenamehypergroup}{%
\csuse{@glscompstyle@tree}%
}%
\compatglossarystyle{mcolalmtree}{%
\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolalmtreegroup}{%
\csuse{@glscompstyle@almtree}%
}%
\compatglossarystyle{mcolalmtreehypergroup}{%
\csuse{@glscompstyle@almtree}%
}%
}%

\compatglossarystyle{superragged}{%
\renewcommand*{\glossaryentryfield}[5]{%
\glsentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5%
\tabularnewline}%
\renewcommand*{\glossarysubentryfield}[6]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}##4\glspostdescription\space ##6%
}

```



```

 \tabularnewline}%
}%
\compatglossarystyle{superraggedborder}{%
 \csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superraggedheader}{%
 \csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superraggedheaderborder}{%
 \csuse{@glscompstyle@superragged}%
}%
\compatglossarystyle{superragged3col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\tabularnewline}%
}%
\compatglossarystyle{superragged3colborder}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{superragged3colheader}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{superragged3colheaderborder}{%
 \csuse{@glscompstyle@superragged3col}%
}%
\compatglossarystyle{altsuperragged4col}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\tabularnewline}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\tabularnewline}%
}%
\compatglossarystyle{altsuperragged4colheader}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{altsuperragged4colborder}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{altsuperragged4colheaderborder}{%
 \csuse{@glscompstyle@altsuperragged4col}%
}%
\compatglossarystyle{super}{%
 \renewcommand*{\glossaryentryfield}[5]{%
 \glentryitem{##1}\glstarget{##1}{##2} & ##3\glspostdescription\space ##5\\}%
 \renewcommand*{\glossarysubentryfield}[6]{%
 &

```

```

 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4\glspostdescription\space ##6\}%
}%
\compatglossarystyle{superborder}{%
 \csuse{@glscompstyle@super}%
}%
\compatglossarystyle{superheader}{%
 \csuse{@glscompstyle@super}%
}%
\compatglossarystyle{superheaderborder}{%
 \csuse{@glscompstyle@super}%
}%
\compatglossarystyle{super3col}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glssubentryitem{##1}\glstarget{##1}{##2} & ##3 & ##5\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##6\}%
}%
\compatglossarystyle{super3colborder}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super3colheader}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super3colheaderborder}{%
 \csuse{@glscompstyle@super3col}%
}%
\compatglossarystyle{super4col}{%
 \renewcommand*\glossaryentryfield}[5]{%
 \glssubentryitem{##1}\glstarget{##1}{##2} & ##3 & ##4 & ##5\}%
 \renewcommand*\glossarysubentryfield}[6]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}##4 & ##5 & ##6\}%
}%
\compatglossarystyle{super4colheader}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{super4colborder}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{super4colheaderborder}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4col}{%
 \csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colheader}{%

```

```

\csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colborder}{%
\csuse{@glscompstyle@super4col}%
}%
\compatglossarystyle{altsuper4colheaderborder}{%
\csuse{@glscompstyle@super4col}%
}%

```

## 8.23 Rollback v4.49 (glossaries-polyglossia-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-polyglossia}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{tracklang}
\let\glsifusetranslator\@secondoftwo
\AnyTrackedLanguages
{%
\ForEachTrackedDialect{\this@dialect}{%
\IfTrackedLanguageFileExists{\this@dialect}%
{glossaries-}% prefix
{.ldf}%
{%
\RequireGlossariesLang{\CurrentTrackedTag}%
}%
}%
\PackageWarningNoLine{glossaries}%
{No language module detected for ‘\this@dialect’.\MessageBreak
Language modules need to be installed separately.\MessageBreak
Please check on CTAN for a bundle called\MessageBreak
‘glossaries-\CurrentTrackedLanguage’ or similar}%
}%
}%
}%
{}%

```

## 8.24 Rollback v4.49 (glossaries-prefix-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-prefix}[2021/11/01 v4.49 (NLCT)]
\DeclareOption*{\PassOptionsToPackage{\CurrentOption}{glossaries}}
\ProcessOptions
\RequirePackage{glossaries}[=v4.49]
\define@key{glossentry}{prefixfirst}{\def\@glo@entryprefixfirst{#1}}%
\define@key{glossentry}{prefixfirstplural}{\def\@glo@entryprefixfirstplural{#1}}%
\define@key{glossentry}{prefix}{\def\@glo@entryprefix{#1}}%
\define@key{glossentry}{prefixplural}{\def\@glo@entryprefixplural{#1}}%
\appto{@gls@keymap}{,%

```

```

{prefixfirst}{prefixfirst},%
{prefixfirstplural}{prefixfirstplural},%
{prefix}{prefix},%
{prefixplural}{prefixplural}%
}
\appto@newglossaryentryprehook{%
\def@glo@entryprefix{}%
\def@glo@entryprefixplural{}%
\let@glo@entryprefixfirst@gls@default@value
\let@glo@entryprefixfirstplural@gls@default@value
}
\appto@newglossaryentryposthook{%
\gls@assign@field{}{\@glo@label}{prefix}{\@glo@entryprefix}%
\gls@assign@field{}{\@glo@label}{prefixplural}{\@glo@entryprefixplural}%
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @prefix\endcsname}{\@glo@label}{prefixfirst}%
{\@glo@entryprefixfirst}%
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @prefixplural\endcsname}{\@glo@label}%
{prefixfirstplural}{\@glo@entryprefixfirstplural}%
}
\newcommand*{\glsentryprefixfirst}[1]{\csuse{glo@glsdetoklabel{#1}@prefixfirst}}
\newcommand*{\glsentryprefixfirstplural}[1]{%
\csuse{glo@glsdetoklabel{#1}@prefixfirstplural}}
\newcommand*{\glsentryprefix}[1]{\csuse{glo@glsdetoklabel{#1}@prefix}}
\newcommand*{\glsentryprefixplural}[1]{\csuse{glo@glsdetoklabel{#1}@prefixplural}}
\newrobustcmd*{\Glsentryprefixfirst}[1]{%
\protected@edef@glo@text{\csname glo@glsdetoklabel{#1}@prefixfirst\endcsname}%
\xmakefirstuc@glo@text
}
\newrobustcmd*{\Glsentryprefixfirstplural}[1]{%
\protected@edef@glo@text{\csname glo@glsdetoklabel{#1}@prefixfirstplural\endcsname}%
\xmakefirstuc@glo@text
}
\newrobustcmd*{\Glsentryprefix}[1]{%
\protected@edef@glo@text{\csname glo@glsdetoklabel{#1}@prefix\endcsname}%
\xmakefirstuc@glo@text
}
\newrobustcmd*{\Glsentryprefixplural}[1]{%
\protected@edef@glo@text{\csname glo@glsdetoklabel{#1}@prefixplural\endcsname}%
\xmakefirstuc@glo@text
}
\newcommand*{\ifglshasprefix}[3]{%
\ifcsemtty{glo@glsdetoklabel{#1}@prefix}%
{#3}%
{#2}%
}
\newcommand*{\ifglshasprefixplural}[3]{%
\ifcsemtty{glo@glsdetoklabel{#1}@prefixplural}%
{#3}%
}

```

```

 {#2}%
}
\newcommand*{\ifglshasprefixfirst}[3]{%
 \ifcempty{glo@glstdetoklabel{#1}@prefixfirst}%
 {#3}%
 {#2}%
}
\newcommand*{\ifglshasprefixfirstplural}[3]{%
 \ifcempty{glo@glstdetoklabel{#1}@prefixfirstplural}%
 {#3}%
 {#2}%
}
\providecommand{\@glsprefix@record@hook}[2]{%
 \ifdef\@glsextr@record
 {\@glsextr@record{#1}{#2}{glslink}}%
 {}%
}
\newcommand{\glsprefixsep}{}
\newrobustcmd{\pgls}{\@glshyp@opt\@pgls}
\newcommand*{\@pgls}[2][{}]{%
 \new@ifnextchar[%
 {\@pgls@{#1}{#2}}%
 {\@pgls@{#1}{#2}[]}%
}
\def\@pgls@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glstdoifexists{#2}%
 {%
 \ifglused{#2}%
 {%
 \ifglshasprefix{#2}{\glsentryprefix{#2}\glsprefixsep}{}%
 }%
 {%
 \ifglshasprefixfirst{#2}{\glsentryprefixfirst{#2}\glsprefixsep}{}%
 }%
 \@glss@{#1}{#2}[#3]%
 }%
}
\newrobustcmd{\pglsp1}{\@glshyp@opt\@pglsp1}
\newcommand*{\@pglsp1}[2][{}]{%
 \new@ifnextchar[%
 {\@pglsp1@{#1}{#2}}%
 {\@pglsp1@{#1}{#2}[]}%
}
\def\@pglsp1@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glstdoifexists{#2}%
 {%
 \ifglused{#2}%
 {%

```

```

 \ifglshasprefixplural{#2}{\glstentryprefixplural{#2}\glsprefixsep}{}%
 }%
 {%
 \ifglshasprefixfirstplural{#2}%
 {\glstentryprefixfirstplural{#2}\glsprefixsep}{}%
 }%
 \@glspl@{#1}{#2}[#3]%
}
}
\newrobustcmd{\Pglsh}{\@gls@hyp@opt\Pglsh}
\newcommand*{\@Pglsh}[2][{}]{%
 \new@ifnextchar[%
 {\@Pglsh@{#1}{#2}}%
 {\@Pglsh@{#1}{#2}[{}]}%
 }
}
\def\@Pglsh@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglshasprefix{#2}%
 {%
 \Glsentryprefix{#2}%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]%
 }%
 {\@Gls@{#1}{#2}[#3]}%
 }%
 {%
 \ifglshasprefixfirst{#2}%
 {%
 \Glsentryprefixfirst{#2}%
 \glsprefixsep
 \@gls@{#1}{#2}[#3]%
 }%
 {\@Gls@{#1}{#2}[#3]}%
 }%
 }%
}
}
\newrobustcmd{\Pglspl}{\@gls@hyp@opt\Pglspl}
\newcommand*{\@Pglspl}[2][{}]{%
 \new@ifnextchar[%
 {\@Pglspl@{#1}{#2}}%
 {\@Pglspl@{#1}{#2}[{}]}%
 }
}
\def\@Pglspl@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%

```

```

\ifglsused{#2}%
{%
 \ifglschasprefixplural{#2}%
 {%
 \Glsentryprefixplural{#2}%
 \glsprefixsep
 \@glspl@{#1}{#2}[#3]%
 }%
 {\@Glspl@{#1}{#2}[#3]}%
}%
{%
 \ifglschasprefixfirstplural{#2}%
 {%
 \Glsentryprefixfirstplural{#2}%
 \glsprefixsep
 \@glspl@{#1}{#2}[#3]%
 }%
 {\@Glspl@{#1}{#2}[#3]}%
}%
}%
}
\newrobustcmd{\PGLS}{\@gls@hyp@opt\PGLS}
\newcommand*{\@PGLS}[2][\%
 \new@ifnextchar[\%
 {\@PGLS@{#1}{#2}}%
 {\@PGLS@{#1}{#2}[]}%
}
\def\@PGLS@#1#2[#3]{%
 \@glsprefix@record@hook{#1}{#2}%
 \glsdoifexists{#2}%
 {%
 \ifglsused{#2}%
 {%
 \ifglschasprefix{#2}%
 {\mfirstucMakeUppercase{\glsentryprefix{#2}\glsprefixsep}}}%
 }%
 {%
 \ifglschasprefixfirst{#2}%
 {\mfirstucMakeUppercase{\glsentryprefixfirst{#2}\glsprefixsep}}}%
 }%
 \@GLS@{#1}{#2}[#3]%
 }%
}
\newrobustcmd{\PGLSp1}{\@gls@hyp@opt\PGLSp1}
\newcommand*{\@PGLSp1}[2][\%
 \new@ifnextchar[\%
 {\@PGLSp1@{#1}{#2}}%
 {\@PGLSp1@{#1}{#2}[]}%
}
\def\@PGLSp1@#1#2[#3]{%

```

```

\@glsprefix@record@hook{#1}{#2}%
\glsdoifexists{#2}%
{%
 \ifglsused{#2}%
 {%
 \ifglschasprefixplural{#2}%
 {\mfirstucMakeUppercase{\glsentryprefixplural{#2}\glsprefixsep}}{}}%
 }%
 {%
 \ifglschasprefixfirstplural{#2}%
 {\mfirstucMakeUppercase{\glsentryprefixfirstplural{#2}\glsprefixsep}}{}}%
 }%
 \@GLSp1@{#1}{#2}{#3}%
}%
}

```

## 8.25 Rollback v4.49 (glossary-hypernav-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-hypernav}[2021/11/01 v4.49 (NLCT)]
\newcommand*\glsnavhyperlink}[3][\@glo@type]{%
 \protected@edef\gls@grplabel{#2}\protected@edef\gls@grptitle{#3}%
 \glslink{\glsnavhyperlinkname{#1}{#2}}{#3}}
\newcommand*\glsnavhyperlinkname}[2]{\glsn:#1@#2}
\newcommand*\glsnavhypertarget}[3][\@glo@type]{%
 \@glsnavhypertarget{#1}{#2}{#3}%
}
\newcommand*\@glsnavhypertarget}[3]{%
 \protected@write\@auxout{}\string\@gls@hypergroup{#1}{#2}}%
 \@gls@target{\glsnavhyperlinkname{#1}{#2}}{#3}%
 \expandafter\let
 \expandafter\@gls@list\csname @gls@hypergroup@#1\endcsname
 \@for\@gls@elem:=\@gls@list\do{%
 \ifthenelse{\equal{\@gls@elem}{#2}}{\@endfortrue}{}}%
 \if@endfor
 \else
 \GlossariesWarningNoLine{Navigation panel
 for glossary type ‘#1’^^Jmissing group ‘#2’}%
 \gdef\gls@hypergroup@rerun{%
 \GlossariesWarningNoLine{Navigation panel
 has changed. Rerun LaTeX}}%
 \fi
}
\let\gls@hypergroup@rerun\relax
\AtEndDocument{\gls@hypergroup@rerun}
\newcommand*\@gls@hypergroup}[2]{%
 \@ifundefined{\@gls@hypergroup@list@#1}{%
 \expandafter\xdef\csname @gls@hypergroup@list@#1\endcsname{#2}%
 }{%

```



```

\expandafter\let\expandafter\@gls@tmp
 \csname @gls@hypergroupplist@#1\endcsname
\expandafter\xdef\csname @gls@hypergroupplist@#1\endcsname{%
 \@gls@tmp,#2}%
}%
}
\newcommand*{\glsnavigation}{%
 \def\@gls@between{}%
 \ifcsundef{@gls@hypergroupplist@\@glo@type}%
 {%
 \def\@gls@list{}%
 }%
 {%
 \expandafter\let\expandafter\@gls@list
 \csname @gls@hypergroupplist@\@glo@type\endcsname
 }%
 \@for\@gls@tmp:=\@gls@list\do{%
 \@gls@between
 \@gls@getgrouptitle{\@gls@tmp}{\@gls@grptitle}%
 \glsnavhyperlink{\@gls@tmp}{\@gls@grptitle}%
 \let\@gls@between\glshypernavsep
 }%
}
\newcommand*{\glshypernavsep}{\space\textbar\space}
\newcommand*{\glsymbolnav}{%
 \glsnavhyperlink{glsymbols}{\glsgetgrouptitle{glsymbols}}%
 \glshypernavsep
 \glsnavhyperlink{glsnumbers}{\glsgetgrouptitle{glsnumbers}}%
 \glshypernavsep
}

```

## 8.26 Rollback v4.49 (glossary-inline-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-inline}[2021/11/01 v4.49 (NLCT)]
\newglossarystyle{inline}{%
 \renewenvironment{theglossary}%
 {%
 \def\gls@inlinesep{}%
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{}%
 }%
 {\glspostinline}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgrupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsinlinedopostchild
 \gls@inlinesep
 \glsentryitem{##1}%
 }%
}

```

```

\glsinlinenameformat{##1}{%
 \glossentryname{##1}%
}%
\ifglsdescsuppressed{##1}%
{%
 \glsinlineemptydescformat
 {%
 \glossentrysymbol{##1}%
 }%
 {%
 ##2%
 }%
}%
{%
 \ifglshasdesc{##1}%
 {\glsinlinedescformat{\glossentrydesc{##1}}{\glossentrysymbol{##1}}{##2}}%
 {\glsinlineemptydescformat{\glossentrysymbol{##1}}{##2}}%
}%
\ifglshaschildren{##1}%
{%
 \glsresetsubentrycounter
 \glsinlineparentchildseparator
 \def\gls@inlinesubsep{}%
 \def\gls@inlinepostchild{\glsinlinepostchild}%
}%
{}%
\def\gls@inlinesep{\glsinlineseparator}%
}%
\renewcommand{\subglossentry}[3]{%
 \gls@inlinesubsep%
 \glsinlinesubnameformat{##2}{%
 \glossentryname{##2}}%
 \glssubentryitem{##2}%
 \glsinlinesubdescformat{\glossentrydesc{##2}}{\glossentrysymbol{##2}}{##3}%
 \def\gls@inlinesubsep{\glsinlinesubseparator}%
}%
\renewcommand*{\glsgroupskip}{}%
}
\newcommand*{\glsinlinedopostchild}{%
 \gls@inlinepostchild
 \def\gls@inlinepostchild{}%
}
\newcommand*{\glsinlineseparator}{;\space}
\newcommand*{\glsinlinesubseparator}{,\space}
\newcommand*{\glsinlineparentchildseparator}{:\space}
\newcommand*{\glsinlinepostchild}{}
\newcommand*{\glspostinline}{\glspostdescription\space}
\newcommand*{\glsinlinenameformat}[2]{\glstarget{#1}{#2}}
\newcommand*{\glsinlinedescformat}[3]{\space#1}
\newcommand*{\glsinlineemptydescformat}[2]{}

```

```

\newcommand*\glsinlinesubnameformat}[2]{\glstarget{#1}{}}
\newcommand*\glsinlinesubdescformat}[3]{#1}

```

## 8.27 Rollback v4.49 (glossary-list-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossary-list}[2021/11/01 v4.49 (NLCT)]
\providecommand*\indexspace{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*\glslistgroupheaderfmt}[1]{#1}
\newcommand*\glslistnavigationitem}[1]{\item[#1]}
\newcommand*\glslistinit{%
 \ifdef\GetTitleStringDisableCommands
 {%
 \GetTitleStringSetup{expand}%
 \GetTitleStringDisableCommands{%
 \let\glsentryitem\@gobble
 \let\glstarget\@secondoftwo
 \let\glossentryname\glslistexpandedname
 \let\glslistgroupheaderfmt\@firstofone
 \let\glsgetgrouptitle\@firstofone
 \let\glsnavhypertarget\@secondoftwo
 \let\glsnavigation\relax
 }%
 }%
}
\newcommand{\glslistexpandedname}[1]{%
 \glsunexpandedfieldvalue{#1}{name}%
}
\newglossarystyle{list}{%
 \renewenvironment{theglossary}%
 {\glslistinit\begin{description}}{\end{description}}%
 \renewcommand*\{glossaryheader}{}%
 \renewcommand*\{glsgroupheading}[1]{}%
 \renewcommand*\{glossentry}[2]{%
 \item[\glsentryitem{##1}%
 \glstarget{##1}{\glossentryname{##1}}]
 \glossentrydesc{##1}\glspostdescription\space ##2}%
 \renewcommand*\{subglossentry}[3]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\space
 \glossentrydesc{##2}\glspostdescription\space ##3.}%
 \renewcommand*\{glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{listgroup}{%
 \setglossarystyle{list}%
}

```

```

\renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
\newglossarystyle{listhypergroup}{%
 \setglossarystyle{list}%
 \renewcommand*\glossaryheader{%
 \glslistnavigationitem{\glsnavigation}}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}]}]}
\newglossarystyle{altlist}{%
 \setglossarystyle{list}%
 \renewcommand*\glossentry}[2]{%
 \item[\glsentryitem{##1}%
 \glstarget{##1}{\glossentryname{##1}}%
 \mbox{}\par\nobreak\@afterheading
 \glossentrydesc{##1}\glspostdescription\space ##2}%
 \renewcommand*\subglossentry}[3]{%
 \par
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space ##3}%
}
\newglossarystyle{altlistgroup}{%
 \setglossarystyle{altlist}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}]}
\newglossarystyle{altlisthypergroup}{%
 \setglossarystyle{altlist}%
 \renewcommand*\glossaryheader{%
 \glslistnavigationitem{\glsnavigation}}%
 \renewcommand*\glsgroupheading}[1]{%
 \item[\glslistgroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}]}]}
\newglossarystyle{listdotted}{%
 \setglossarystyle{list}%
 \renewcommand*\glossentry}[2]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glsentryitem{##1}%
 \glstarget{##1}{\glossentryname{##1}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}\glossentrydesc{##1}}%
 \renewcommand*\subglossentry}[3]{%
 \item[]\makebox[\glslistdottedwidth][l]{%
 \glssubentryitem{##2}%
 \glstarget{##2}{\glossentryname{##2}}%
 \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}\glossentrydesc{##2}}%
}
\newlength\glslistdottedwidth
\setlength{\glslistdottedwidth}{.5\hsize}
\newglossarystyle{sublistdotted}{%
 \setglossarystyle{listdotted}%
 \renewcommand*\glossentry}[2]{%

```

```

 \item[\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}}]{%
}

```

## 8.28 Rollback v4.49 (glossary-long-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-long}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{longtable}
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{%}
\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{%}
\newglossarystyle{long}{%
 \renewenvironment{theglossary}{%
 {\begin{longtable}[lp{glsdescwidth}]}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & \tabularnewline}%
 \fi
}
\newglossarystyle{longborder}{%
 \setglossarystyle{long}%
 \renewenvironment{theglossary}{%
 \begin{longtable}[|lp{glsdescwidth}|]{\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
 }
\newglossarystyle{longheader}{%
 \setglossarystyle{long}%
 \renewcommand*{\glossaryheader}{%
 \bfseries \entryname & \bfseries \descriptionname\tabularnewline\endhead}%
}

```

```

\newglossarystyle{longheaderborder}{%
 \setglossarystyle{longborder}%
 \renewcommand*{\glossaryheader}{%
 \hline\bfseries \entryname & \bfseries
 \descriptionname\tabularnewline\hline
 \endhead
 \hline\endfoot}%
}
\newglossarystyle{long3col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}p{\glspagelistwidth}}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{long3colborder}{%
 \setglossarystyle{long3col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|p{\glsdescwidth}|p{\glspagelistwidth}|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{long3colheader}{%
 \setglossarystyle{long3col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{long3colheaderborder}{%
 \setglossarystyle{long3colborder}%
 \renewcommand*{\glossaryheader}{%
 \hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}

```

```

}
\newglossarystyle{long4col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} &
 ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{long4colheader}{%
 \setglossarystyle{long4col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{long4colborder}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{long4colheaderborder}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|l|l|l|}}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}
}

```

```

\newglossarystyle{altlong4col}{%
 \setglossarystyle{long4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colheader}{%
 \setglossarystyle{long4colheader}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colborder}{%
 \setglossarystyle{long4colborder}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}}%
 {\end{longtable}}%
}
\newglossarystyle{altlong4colheaderborder}{%
 \setglossarystyle{long4colheaderborder}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|lp{\glsdescwidth}|lp{\glspagelistwidth}|}}%
 {\end{longtable}}%
}
}

```

## 8.29 Rollback v4.49 (glossary-longbooktabs-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-longbooktabs}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{booktabs}
\RequirePackage{glossary-long}[=v4.46]
\RequirePackage{glossary-longragged}[=v4.46]
\newglossarystyle{long-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long}%
 \renewcommand*{\glossaryheader}{%
 \toprule \bfseries \entryname & \bfseries
 \descriptionname\tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
 \fi
}
\newglossarystyle{long3col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long3col}%
 \renewcommand*{\glossaryheader}{%

```



```

 \toprule \bfseries \entryname &
 \bfseries \descriptionname &
 \bfseries \pagelistname
 \tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
\ifglsnogroupskip
 \renewcommand*\{glsgroupskip}\{}%
\else
 \renewcommand*\{glsgroupskip}\{glspenaltygroupskip}%
\fi
}
\newglossarystyle{long4col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long4col}%
 \renewcommand*\{glossaryheader}{%
 \toprule \bfseries \entryname &
 \bfseries \descriptionname &
 \bfseries \symbolname &
 \bfseries \pagelistname
 \tabularnewline\midrule\endhead
 \bottomrule\endfoot}%
 \ifglsnogroupskip
 \renewcommand*\{glsgroupskip}\{}%
 \else
 \renewcommand*\{glsgroupskip}\{glspenaltygroupskip}%
 \fi
}
\newglossarystyle{altlong4col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long4col-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}\lp{\glsdescwidth}\lp{\glspagelistwidth}}%
 {\end{longtable}}%
}
\newglossarystyle{longragged-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}\l>{\raggedright}p{\glsdescwidth}}%
 {\end{longtable}}%
}
\newglossarystyle{longragged3col-booktabs}{%
 \glspatchLToutput
 \setglossarystyle{long3col-booktabs}%
 \renewenvironment{theglossary}%
 {\begin{longtable}\l>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}%
 {\end{longtable}}%
}
\newglossarystyle{altlongragged4col-booktabs}{%

```

```

\glspatchLToutput
\setglossarystyle{altlong4col-booktabs}%
\renewenvironment{theglossary}%
 {\begin{longtable}{l>{\raggedright}p{\glsdescwidth}l%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}%
}
\newcommand*{\glsLTpenaltycheck}{%
\ifnum\outputpenalty=-50\vskip-\normalbaselineskip\relax\fi
}
\newcommand{\glspenaltygroupskip}{%
\noalign{\penalty-50\vskip\normalbaselineskip}}
\let\@gls@org@LT@output\LT@output
\newcommand*{\glsrestoreLToutput}{\let\LT@output\@gls@org@LT@output}
\newcommand*{\glspatchLToutput}{%
\renewcommand*{\LT@output}{%
\ifnum\outputpenalty <-\@Mi
\ifnum\outputpenalty > -\LT@end@pen
\LT@err{floats and marginpars not allowed in a longtable}\@ehc
\else
\setbox\z@\vbox{\unvbox\@cclv}%
\ifdim \ht\LT@lastfoot>\ht\LT@foot
\dimen@\pagegoal
\advance\dimen@-\ht\LT@lastfoot
\ifdim\dimen@<\ht\z@
\setbox\@cclv\vbox{\unvbox\z@\copy\LT@foot\vss}%
\@makecol
\@outputpage
\setbox\z@\vbox{\box\LT@head\glsLTpenaltycheck}%
\fi
\fi
\global\@colroom\@colht
\global\vsizel\@colht
{\unvbox\z@\box\ifvoid\LT@lastfoot\LT@foot\else\LT@lastfoot\fi}%
\fi
\else
\setbox\@cclv\vbox{\unvbox\@cclv\copy\LT@foot\vss}%
\@makecol
\@outputpage
\global\vsizel\@colroom
\copy\LT@head
\glsLTpenaltycheck
\nobreak
\fi
}%
}

```

## 8.30 Rollback v4.49 (glossary-longragged-2021-11-01.sty)

Version 4.49 preserved for rollback.

```
\ProvidesPackage{glossary-longragged}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{array}
\RequirePackage{longtable}
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{%}
\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{%}
\newglossarystyle{longragged}{%
 \renewenvironment{theglossary}{%
 {\begin{longtable}[1>{\raggedright}p{glsdescwidth}}}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{%}
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}%
 \glspostdescription\space ##3%
 \tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & \tabularnewline}%
 \fi
}
\newglossarystyle{longraggedborder}{%
 \setglossarystyle{longragged}%
 \renewenvironment{theglossary}{%
 \begin{longtable}{|l|>{\raggedright}p{glsdescwidth}|}%
 {\end{longtable}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{longraggedheader}{%
 \setglossarystyle{longragged}%
 \renewcommand*{\glossaryheader}{%
 \bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\endhead}%
}
```

```

}
\newglossarystyle{longraggedheaderborder}{%
 \setglossarystyle{longraggedborder}%
 \renewcommand*{\glossaryheader}{%
 \hline\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline\hline
 \endhead
 \hline\endfoot}%
}
\newglossarystyle{longragged3col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}[1>{\raggedright}p{\glsdescwidth}%
 >{\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{longragged3colborder}{%
 \setglossarystyle{longragged3col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}[|l|>{\raggedright}p{\glsdescwidth}|%
 >{\raggedright}p{\glspagelistwidth}|}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{longragged3colheader}{%
 \setglossarystyle{longragged3col}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{longragged3colheaderborder}{%
 \setglossarystyle{longragged3colborder}%
 \renewcommand*{\glossaryheader}{%
 \hline

```

```

 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
 }
\newglossarystyle{altlongragged4col}{%
 \renewenvironment{theglossary}%
 {\begin{longtable}[l>\raggedright]p{\glsdescwidth}l%
 >\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & \glossentrysymbol{##1} &
 ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{ & & \tabularnewline}%
 \fi
}
\newglossarystyle{altlongragged4colheader}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}[l>\raggedright]p{\glsdescwidth}l%
 >\raggedright}p{\glspagelistwidth}}}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{%
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\endhead}%
}
\newglossarystyle{altlongragged4colborder}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%
 {\begin{longtable}{|l|>\raggedright}p{\glsdescwidth}||l%
 >\raggedright}p{\glspagelistwidth}||}%
 {\end{longtable}}}%
 \renewcommand*{\glossaryheader}{\hline\endhead\hline\endfoot}%
}
\newglossarystyle{altlongragged4colheaderborder}{%
 \setglossarystyle{altlongragged4col}%
 \renewenvironment{theglossary}%

```

```

 {\begin{longtable}{|l|>{\raggedright}p{\glstdescwidth}|l|}
 >{\raggedright}p{\glspagelistwidth}|}}%
 {\end{longtable}}%
\renewcommand*{\glossaryheader}{%
 \hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries \symbolname&
 \bfseries\pagelistname\tabularnewline\hline\endhead
 \hline\endfoot}%
}

```

### 8.31 Rollback v4.49 (glossary-mcols-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-mcols}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{multicol}
\RequirePackage{glossary-tree}[=v4.49]
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*{\glsmcols}{2}
\newglossarystyle{mcolindex}{%
 \setglossarystyle{index}%
 \renewenvironment{theglossary}{%
 {%
 \begin{multicols}{\glsmcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 \let\item\glstreeitem
 \let\subitem\glstreesubitem
 \let\subsubitem\glstreesubsubitem
 }%
 {\end{multicols}}%
 }
\newglossarystyle{mcolindexgroup}{%
 \setglossarystyle{mcolindex}%
 \renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\indexspace}%
 }
\newglossarystyle{mcolindexhypergroup}{%
 \setglossarystyle{mcolindex}%
 \renewcommand*{\glossaryheader}{%
 \item\glstreenavigationfmt{\glsnavigation}\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
 }
\newglossarystyle{mcolindexspannav}{%
 \setglossarystyle{index}%

```

```

\renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 \let\item\glstreeitem}%
 {\end{multicols}}%
\renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
}
\newglossarystyle{mcoltree}{%
 \setglossarystyle{tree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}
\newglossarystyle{mcoltreegroup}{%
 \setglossarystyle{mcoltree}%
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcoltreehypergroup}{%
 \setglossarystyle{mcoltree}%
 \renewcommand*{\glossaryheader}{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcoltreespannav}{%
 \setglossarystyle{tree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
}

```

```

\newglossarystyle{mcoltreename}{%
 \setglossarystyle{treename}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
}
\newglossarystyle{mcoltreenamegroup}{%
 \setglossarystyle{mcoltreename}%
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcoltreenamehypergroup}{%
 \setglossarystyle{mcoltreename}%
 \renewcommand*{\glossaryheader}{%
 \par\noindent\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcoltreenamepannav}{%
 \setglossarystyle{treename}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}[\noindent\glstreenavigationfmt{\glsnavigation}]
 \setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 }%
 {\end{multicols}}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
 \indexspace}%
}
\newglossarystyle{mcolalmtree}{%
 \setglossarystyle{almtree}%
 \renewenvironment{theglossary}%
 {%
 \begin{multicols}{\glsmcols}
 \def\@gls@prevlevel{-1}%
 \mbox{}\par
 }%
 {\par\end{multicols}}%
}
\newglossarystyle{mcolalmtreegroup}{%
 \setglossarystyle{mcolalmtree}%

```



```

\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{mcolalmtreehypergroup}{%
\setglossarystyle{mcolalmtree}%
\renewcommand*\glossaryheader{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
\renewcommand*\glsgroupheading}[1]{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}
\newglossarystyle{mcolalmtreespannav}{%
\setglossarystyle{almtree}%
\renewenvironment{theglossary}%
{%
\begin{multicols}{\glsncols}[\noindent\glstreenavigationfmt{\glsnavigation}]
\def\@gls@prevlevel{-1}%
\mbox{}\par
}%
{\par\end{multicols}}%
\renewcommand*\glsgroupheading}[1]{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}%
}

```

### 8.32 Rollback v4.49 (glossary-super-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-super}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{supertabular}
\@ifundefined{glsdescwidth}{%
\newlength\glsdescwidth
\setlength{glsdescwidth}{0.6\hsize}
}{}

```

```

\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{%}
\newglossarystyle{super}{%
 \renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}}%
 \begin{supertabular}{lp{glstdescwidth}}%
 {\end{supertabular}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgruppeheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3\tabularnewline
 }%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& \tabularnewline}%
 \fi
}
\newglossarystyle{superborder}{%
 \setglossarystyle{super}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}}%
 \begin{supertabular}{|lp{glstdescwidth}|}%
 {\end{supertabular}}%
}
\newglossarystyle{superheader}{%
 \setglossarystyle{super}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname &
 \bfseries\descriptionname\tabularnewline}}%
 \tabletail{}%
 \begin{supertabular}{lp{glstdescwidth}}%
 {\end{supertabular}}%
}
\newglossarystyle{superheaderborder}{%
 \setglossarystyle{super}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname\tabularnewline\hline}}%
 \tabletail{\hline}
 \begin{supertabular}{|lp{glstdescwidth}|}%

```

```

 {\end{supertabular}}%
 }
\newglossarystyle{super3col}{%
 \renewenvironment{theglossary}%
 {\tablehead{}}\tabletail{}}%
 \begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}%
 {\end{supertabular}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 ##3\tabularnewline
 }%
 \ifglsnogroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
 \fi
}
\newglossarystyle{super3colborder}{%
 \setglossarystyle{super3col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}}%
 \begin{supertabular}{|lp{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}
\newglossarystyle{super3colheader}{%
 \setglossarystyle{super3col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline}\tabletail{}}%
 \begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}%
 {\end{supertabular}}%
}
\newglossarystyle{super3colheaderborder}{%
 \setglossarystyle{super3colborder}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}}%
 \tabletail{\hline}}%
 \begin{supertabular}{|lp{\glsdescwidth}|p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}
}

```

```

\newglossarystyle{super4col}{%
 \renewenvironment{theglossary}%
 {\tablehead{ }\tabletail{ }%
 \begin{supertabular}{1111}}{%
 \end{supertabular}}%
 \renewcommand*{\glossaryheader}{ }%
 \renewcommand*{\glsgroupheading}[1]{ }%
 \renewcommand{\glossentry}[2]{%
 \glstentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1} &
 \glossentrysymbol{##1} & ##2\tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2} &
 \glossentrysymbol{##2} & ##3\tabularnewline
 }%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{ }%
 \else
 \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
 \fi
}
\newglossarystyle{super4colheader}{%
 \setglossarystyle{super4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline}%
 \tabletail{ }%
 \begin{supertabular}{1111}}%
 {\end{supertabular}}%
}
\newglossarystyle{super4colborder}{%
 \setglossarystyle{super4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}{|1|1|1|1|}%
 \end{supertabular}}%
}
\newglossarystyle{super4colheaderborder}{%
 \setglossarystyle{super4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}{|1|1|1|1|}%
 \end{supertabular}}%
}

```

```

}
\newglossarystyle{altsuper4col}{%
 \setglossarystyle{super4col}%
 \renewenvironment{theglossary}%
 {\tablehead{ }\tabletail{ }%
 \begin{supertabular}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
\newglossarystyle{altsuper4colheader}{%
 \setglossarystyle{super4colheader}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries\entryname&\bfseries\descriptionname&
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline}\tabletail{ }%
 \begin{supertabular}{lp{\glsdescwidth}lp{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
\newglossarystyle{altsuper4colborder}{%
 \setglossarystyle{super4colborder}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline}\tabletail{\hline}%
 \begin{supertabular}%
 {llp{\glsdescwidth}llp{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
\newglossarystyle{altsuper4colheaderborder}{%
 \setglossarystyle{super4colheaderborder}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname &
 \bfseries\descriptionname &
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}%
 {llp{\glsdescwidth}llp{\glspagelistwidth}}}%
 {\end{supertabular}}}%
}
}

```

### 8.33 Rollback v4.49 (glossary-superragged-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-superragged}[2021/11/01 v4.49 (NLCT)]
\RequirePackage{array}
\RequirePackage{supertabular}
\@ifundefined{glsdescwidth}{%
 \newlength{glsdescwidth}
 \setlength{glsdescwidth}{0.6\hsize}
}{ }

```

```

\@ifundefined{glspagelistwidth}{%
 \newlength{glspagelistwidth}
 \setlength{glspagelistwidth}{0.1\hsize}
}{%}
\newglossarystyle{superragged}{%
 \renewenvironment{theglossary}%
 {\tablehead{} \tabletail{}}%
 {\begin{supertabular}{1>{\raggedright}p{\glsdescwidth}}}%
 {\end{supertabular}}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
 \glossentrydesc{##1}\glspostdescription\space ##2%
 \tabularnewline
 }%
 \renewcommand{\subglossentry}[3]{%
 &
 \glssubentryitem{##2}%
 \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription\space
 ##3%
 \tabularnewline
 }%
 \ifglsgroupskip
 \renewcommand*{\glsgroupskip}{}%
 \else
 \renewcommand*{\glsgroupskip}{& \tabularnewline}%
 \fi
}
\newglossarystyle{superraggedborder}{%
 \setglossarystyle{superragged}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline} \tabletail{\hline}}%
 {\begin{supertabular}{||1>{\raggedright}p{\glsdescwidth}||}}%
 {\end{supertabular}}%
}
\newglossarystyle{superraggedheader}{%
 \setglossarystyle{superragged}%
 \renewenvironment{theglossary}%
 {\tablehead{\bfseries \entryname & \bfseries \descriptionname
 \tabularnewline}%
 \tabletail{}}%
 {\begin{supertabular}{1>{\raggedright}p{\glsdescwidth}}}%
 {\end{supertabular}}%
}
\newglossarystyle{superraggedheaderborder}{%
 \setglossarystyle{superragged}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline\bfseries \entryname &
 \bfseries \descriptionname\tabularnewline\hline}}%
}

```

```

 \tabletail{\hline}
 \begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}||}%
 {\end{supertabular}}%
}
\newglossarystyle{superragged3col}{%
\renewenvironment{theglossary}%
{\tablehead{\tabletail}{%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}%
>{\raggedright}p{\glspagelistwidth}}}%
{\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1} &
##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2} &
##3\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*{\glsgroupskip}{}%
\else
\renewcommand*{\glsgroupskip}{& & \tabularnewline}%
\fi
}
\newglossarystyle{superragged3colborder}{%
\setglossarystyle{superragged3col}%
\renewenvironment{theglossary}%
{\tablehead{\hline}\tabletail{\hline}%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}||%
>{\raggedright}p{\glspagelistwidth}||}%
{\end{supertabular}}%
}
\newglossarystyle{superragged3colheader}{%
\setglossarystyle{superragged3col}%
\renewenvironment{theglossary}%
{\tablehead{\bfseries\entryname&\bfseries\descriptionname&
\bfseries\pagelistname\tabularnewline}\tabletail}{%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}%
>{\raggedright}p{\glspagelistwidth}}}%
{\end{supertabular}}%
}
\newglossarystyle{superragged3colheaderborder}{%
\setglossarystyle{superragged3colborder}%
\renewenvironment{theglossary}%
{\tablehead{\hline

```

```

 \bfseries\entryname&\bfseries\descriptionname&
 \bfseries\pagelistname\tabularnewline\hline}%
\tabletail{\hline}%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
>{\raggedright}p{\glspagelistwidth}|}%
\end{supertabular}}%
}
\newglossarystyle{altsuperragged4col}{%
\renewenvironment{theglossary}%
{ \tablehead{} \tabletail{}%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
>{\raggedright}p{\glspagelistwidth}|}%
\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1} &
\glossentrysymbol{##1} & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2} &
\glossentrysymbol{##2} & ##3\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*{\glsgroupskip}{}%
\else
\renewcommand*{\glsgroupskip}{& & \tabularnewline}%
\fi
}
\newglossarystyle{altsuperragged4colheader}{%
\setglossarystyle{altsuperragged4col}%
\renewenvironment{theglossary}%
{ \tablehead{\bfseries\entryname&\bfseries\descriptionname&
\bfseries\symbolname &
\bfseries\pagelistname\tabularnewline}\tabletail{}%
\begin{supertabular}{|l|>{\raggedright}p{\glsdescwidth}|%
>{\raggedright}p{\glspagelistwidth}|}%
\end{supertabular}}%
}
\newglossarystyle{altsuperragged4colborder}{%
\setglossarystyle{altsuper4col}%
\renewenvironment{theglossary}%
{ \tablehead{\hline}\tabletail{\hline}%
\begin{supertabular}%
{ |l|>{\raggedright}p{\glsdescwidth}|l|%
>{\raggedright}p{\glspagelistwidth}|}%
\end{supertabular}}%
}

```



```

}
\newglossarystyle{altsuperragged4colheaderborder}{%
 \setglossarystyle{altsuperragged4col}%
 \renewenvironment{theglossary}%
 {\tablehead{\hline
 \bfseries\entryname &
 \bfseries\descriptionname &
 \bfseries\symbolname &
 \bfseries\pagelistname\tabularnewline\hline}%
 \tabletail{\hline}%
 \begin{supertabular}%
 \l|>{\raggedright}p{\glsdescwidth}|l|%
 >{\raggedright}p{\glspagelistwidth}|}%
 {\end{supertabular}}%
}

```

### 8.34 Rollback v4.49 (glossary-tree-2021-11-01.sty)

Version 4.49 preserved for rollback.

```

\ProvidesPackage{glossary-tree}[2021/11/01 v4.49 (NLCT)]
\providecommand{\indexspace}{%
 \par \vskip 10\p@ \@plus 5\p@ \@minus 3\p@ \relax
}
\newcommand*{\glstreenamefmt}[1]{\textbf{#1}}
\newcommand*{\glstreegroupheaderfmt}[1]{\glstreenamefmt{#1}}
\newcommand*{\glstreenavigationfmt}[1]{\glstreenamefmt{#1}}
\ifdef\@idxitem
{\newcommand{\glstreeitem}{\@idxitem}}
{\newcommand{\glstreeitem}{\par\hangindent40\p@}}
\ifdef\subitem
{\let\glstreesubitem\subitem}
{\newcommand\glstreesubitem{\glstreeitem\hspace*{20\p@}}}
\ifdef\subsubitem
{\let\glstreesubsubitem\subsubitem}
{\newcommand\glstreesubsubitem{\glstreeitem\hspace*{30\p@}}}
\newcommand{\glstreepredesc}{\space}
\newcommand{\glstreechildpredesc}{\space}
\newglossarystyle{index}{%
 \renewenvironment{theglossary}%
 {\setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}%
 \let\item\glstreeitem
 \let\subitem\glstreesubitem
 \let\subsubitem\glstreesubsubitem
 }%
 {\par}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand*{\glossentry}[2]{%

```

```

 \item\glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc \glossentrydesc{##1}\glspostdescription\space ##2%
 }%
\renewcommand{\subglossentry}[3]{%
 \ifcase##1\relax
 % level 0
 \item
 \or
 % level 1
 \subitem
 \glssubentryitem{##2}%
 \else
 % all other levels
 \subsubitem
 \fi
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
 \ifglshassymbol{##2}{\space(\glossentrysymbol{##2})}{}%
 \glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3%
}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}}
\newglossarystyle{indexgroup}{%
 \setglossarystyle{index}%
 \renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}%
 \indexspace
 }%
}
\newglossarystyle{indexhypergroup}{%
 \setglossarystyle{index}%
 \renewcommand*{\glossaryheader}{%
 \item\glstreenavigationfmt{\glsnavigation}\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \item\glstreegroupheaderfmt
 {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}%
 \indexspace}%
}
\newglossarystyle{tree}{%
 \renewenvironment{theglossary}%
 {\setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}}%
 {}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
 }%
}

```

```

}%
\renewcommand{\subglossentry}[3]{%
 \hangindent##1\glstreeindent\relax
 \parindent##1\glstreeindent\relax
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
 \ifglshassymbol{##2}{\space(\glossentrysymbol{##2})}{}%
 \glstreechildpredesc\glossentrydesc{##2}\glspostdescription\space ##3\par
}%
\renewcommand*{\glsgroupskip}{\ifglsgnogroupskip\else\indexspace\fi}}
\newglossarystyle{treegroup}{%
 \setglossarystyle{tree}%
 \renewcommand{\glsgroupheading}[1]{\par
 \noindent\glstreegroupheaderfmt{\glsgrouptitle{##1}}\par
 \indexspace}%
}
\newglossarystyle{treehypergroup}{%
 \setglossarystyle{tree}%
 \renewcommand*{\glossaryheader}{%
 \par\noindent\glstreenavigationfmt{\glsgroupnavigation}\par\indexspace}%
 \renewcommand*{\glsgroupheading}[1]{%
 \par\noindent
 \glstreegroupheaderfmt
 {\glsgrouphypertarget{##1}{\glsgrouptitle{##1}}}\par
 \indexspace}%
}
\newlength\glstreeindent
\setlength{\glstreeindent}{10pt}
\newglossarystyle{treenoname}{%
 \renewenvironment{theglossary}%
 {\setlength{\parindent}{0pt}%
 \setlength{\parskip}{0pt plus 0.3pt}}%
 {}%
 \renewcommand*{\glossaryheader}{}%
 \renewcommand*{\glsgroupheading}[1]{}%
 \renewcommand{\glossentry}[2]{%
 \hangindent0pt\relax
 \parindent0pt\relax
 \glssentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
 \ifglshassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
 \glstreepredesc\glossentrydesc{##1}\glspostdescription\space##2\par
 }%
 \renewcommand{\subglossentry}[3]{%
 \hangindent##1\glstreeindent\relax
 \parindent##1\glstreeindent\relax
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi

```

```

\glstarget{##2}{\strut}%
\glossentrydesc{##2}\glspostdescription\space##3\par
}%
\renewcommand*{\glsgroupskip}{\ifglsgnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{treenonamegroup}{%
\setglossarystyle{treenoname}%
\renewcommand{\glsgroupheading}[1]{\par
\noindent\glstreegroupheaderfmt
{\glsgrouptitle{##1}}\par\indexspace}%
}
\newglossarystyle{treenonamehypergroup}{%
\setglossarystyle{treenoname}%
\renewcommand*{\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsgnavigation}\par\indexspace}%
\renewcommand*{\glsgroupheading}[1]{%
\par\noindent
\glstreegroupheaderfmt
{\glsgnavhypertarget{##1}{\glsgrouptitle{##1}}}\par
\indexspace}%
}
\newrobustcmd*{\glsgfindwidesttoplevelname}[1][\@glo@types]{%
\dimen@=0pt\relax
\gls@tmplen=0pt\relax
\forallglossaries[#1]{\@gls@type}%
{%
\forallglsentries[\@gls@type]{\@glo@label}%
{%
\ifglshasparent{\@glo@label}%
}%
{%
\settowidth{\dimen@}%
{\glstreenamefmt{\glsentryname{\@glo@label}}}%
\ifdim\dimen@>\gls@tmplen
\gls@tmplen=\dimen@
\letcs{\@glswidestname}{glo\@glsdetoklabel{\@glo@label}@name}%
\fi
}%
}%
}
\newcommand*{\glssetwidest}[2][0]{%
\expandafter\def\csname @glswidestname\romannumeral#1\endcsname{%
#2}%
}
\newcommand*{\@glswidestname}{}
\newcommand*{\glstreenamebox}[2]{%
\makebox[#1][l]{#2}%
}
\newglossarystyle{almtree}{%

```

```

\renewenvironment{theglossary}%
 {\def\@gls@prevlevel{-1}%
 \mbox{}\par}%
 {\par}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
 \ifnum\@gls@prevlevel=0\relax
 \else
 \settowidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
 \fi
 \hangindent\glstreeindent
 \parindent\glstreeindent
 \makebox[Opt][r]{\glstreenamebox{\glstreeindent}{%
 \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}}}%
 \ifglshassymbol{##1}{(\glossentrysymbol{##1})\space}{}%
 \glossentrydesc{##1}\glspostdescription \space ##2\par
 \def\@gls@prevlevel{0}%
}%
\renewcommand{\subglossentry}[3]{%
 \ifnum##1=1\relax
 \glssubentryitem{##2}%
 \fi
 \ifnum\@gls@prevlevel=##1\relax
 \else
 \@ifundefined{@glswidestname\romannumeral##1}{%
 \settowidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}{%
 \settowidth{\gls@tmplen}{\glstreenamefmt{%
 \csname @glswidestname\romannumeral##1\endcsname\space}}}%
 \ifnum\@gls@prevlevel<##1\relax
 \setlength\glstreeindent\gls@tmplen
 \addtolength\glstreeindent\parindent
 \parindent\glstreeindent
 \else
 \@ifundefined{@glswidestname\romannumeral\@gls@prevlevel}{%
 \settowidth{\glstreeindent}{\glstreenamefmt{%
 \@glswidestname\space}}{%
 \settowidth{\glstreeindent}{\glstreenamefmt{%
 \csname @glswidestname\romannumeral\@gls@prevlevel
 \endcsname\space}}}%
 \addtolength\parindent{-\glstreeindent}%
 \setlength\glstreeindent\parindent
 \fi
 \fi
 \hangindent\glstreeindent
 \makebox[Opt][r]{\glstreenamebox{\gls@tmplen}{%
 \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}}}%
 \ifglshassymbol{##2}{(\glossentrysymbol{##2})\space}{}%
 \glossentrydesc{##2}\glspostdescription\space ##3\par
 \def\@gls@prevlevel{##1}%

```

```

}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\indexspace\fi}%
}
\newglossarystyle{almtreegroup}{%
\setglossarystyle{almtree}%
\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsgetgrouptitle{##1}}%
\par\indexspace}%
}
\newglossarystyle{almtreehypergroup}{%
\setglossarystyle{almtree}%
\renewcommand*{\glossaryheader}{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreenavigationfmt{\glsnavigation}\par\indexspace}%
\renewcommand*{\glsgroupheading}[1]{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt
{\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}\par
\indexspace}}

```

### 8.35 Rollback v4.52 (glossaries-2022-11-03.sty)

```

\NeedsTeXFormat{LaTeX2e}
\DeclareRelease{v4.46}{2020-03-19}{glossaries-2020-03-19.sty}
\DeclareRelease{v4.49}{2021-11-01}{glossaries-2021-11-01.sty}
\DeclareCurrentRelease{v4.52}{2022-11-03}
\ProvidesPackage{glossaries}[2022/11/03 v4.52 (NLCT)]
\RequirePackage{ifthen}
\RequirePackage{xkeyval}[2006/11/18]
\RequirePackage{mfirstuc}
\newcommand{\glsentencecase}[1]{\makefirstuc{#1}}
\ExplSyntaxOn
\newcommand{\glslowercase}[1]{\text_lowercase:n{#1}}
\newcommand{\glsuppercase}[1]{\text_uppercase:n{#1}}
\ifdef\MFUsentencecase
{%
\newcommand{\glsmfuexcl}[1]{\MFUexcl{#1}}
\newcommand{\glsmfublocker}[1]{\MFUblocker{#1}}
\newcommand{\glsmfuaddmap}[2]{\MFUaddmap{#1}{#2}}
}
{

```

```

\RequirePackage{textcase}
\providecommand{\MFUsentencecase}[1]{\text_titlecase_first:n{#1}}
\providecommand{\glsmfuexcl}[1]{
 \tl_if_in:NnF \l_text_case_exclude_arg_tl {#1}
 {
 \tl_put_right:Nn \l_text_case_exclude_arg_tl {#1}
 }
}
\renewcommand*{\mfirstucMakeUppercase}{\MakeTextUppercase}
\newcommand{\glsmfublocker}[1]{\glsmfuexcl{#1}}
\newcommand{\glsmfuaddmap}[2]{\glsmfuexcl{#1}\glsmfublocker{#2}}
}
\ExplSyntaxOff
\RequirePackage{xfor}
\RequirePackage{datatool-base}
\RequirePackage{amsgen}
\RequirePackage{etoolbox}
\newif\if@gls@docloaded
\@ifpackageloaded{doc}{%
 {%
 \@gls@docloadedtrue
 }%
 {%
 \@ifclassloaded{nlctdoc}{\@gls@docloadedtrue}{\@gls@docloadedfalse}%
 }
}
\if@gls@docloaded
 \let\glsorg@theglossary\theglossary
 \let\glsorg@endtheglossary\endtheglossary
 \let\glsorg@PrintChanges\PrintChanges
 \renewcommand{\PrintChanges}{%
 \begingroup
 \let\theglossary\glsorg@theglossary
 \let\endtheglossary\glsorg@endtheglossary
 \glsorg@PrintChanges
 \endgroup
 }
\fi
\newif\if@gls@debug
\define@choicekey{glossaries.sty}{debug}[\gls@debug@val\gls@debug@nr]{%
{true,false,showtargets,showaccsupp}[true]{%
 \ifcase\gls@debug@nr\relax
 % debug=true
 \@gls@debugtrue
 \renewcommand*{\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
 }%
 \renewcommand*{\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
 }%
 \let\@gls@showtarget\@gobble

```

```

\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\or
% debug=false
\@gls@debugfalse
\let\@glsshowtarget\@gobble
\let\@glsshowaccsupp\@gobblethree
\PackageInfo{glossaries}{debug mode OFF}%
\or
% debug=showtargets
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowtarget}{\@glsshowtarget}%
\or
% debug=showaccsupp
\@gls@debugtrue
\renewcommand*\GlossariesWarning}[1]{%
\PackageWarning{glossaries}{##1}%
}%
\renewcommand*\GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{##1}%
}%
\PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\renewcommand{\@glsshowaccsupp}{\glsshowaccsupp}%
\fi
}
\newcommand*\glsshowtarget}[1]{%
\ifmmode
\glsshowtargetinner{#1}%
\else
\ifinner
\glsshowtargetinner{#1}%
\else
\glsshowtargetouter{#1}%
\fi
\fi
}
\newcommand*\glsshowtargetfonttext}[1]{%
\ifmmode \nfss@text{\glsshowtargetfont #1}\else {\glsshowtargetfont #1}\fi
}
\newcommand*\glsshowtargetinner}[1]{\glsshowtargetfonttext{[#1]}}
\newcommand*\glsshowtargetouter}[1]{%
\glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}
\newcommand*\glsshowtargetsymbol}{\tiny\triangleright}
\newcommand*\glsshowtargetfont}{\ttfamily\footnotesize}

```



```

\newcommand*\@glsshowtarget}[1]{}
\newcommand*\glsdoshowtarget}[2]{\@glsshowtarget{#1}#2}
\newrobustcmd*\@@glsshowtarget}[1]{%
 \begingroup
 \protected@edef\@gls@tmp{#1}%
 \@onelevel@sanitize\@gls@tmp
 \expandafter\glsshowtarget\expandafter{\@gls@tmp}%
 \endgroup
}
\newcommand*\@glsshowaccsupp}[3]{}
\newrobustcmd*\glsshowaccsupp}[3]{%
 \ifstrempy{#1}%
 {\@@glsshowtarget{/#2 (#3)}}%
 {\@@glsshowtarget{/#2 (#3) [#1]}}%
}
\newcommand*\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries\space (or move
 \string\newglossaryentry\space
 definitions into the preamble)}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key. It may
 be that the 'see' key has been written to the .glsdefs
 file from the previous run, in which case you need to
 move your definitions
 to the preamble if you don't want to use
 \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@choicekey{glossaries.sty}{seenoinde}x{%
 [\gls@seenoinde@val\gls@seenoinde@nr]{error,warn,ignore}{%
 \ifcase\gls@seenoinde@nr
 \renewcommand*\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key}%
 }%
 \or
 \renewcommand*\@gls@see@noindex}{%
 \GlossariesWarning{'\gls@xr@key' key ignored}%
 }%
 \or
 \renewcommand*\@gls@see@noindex}{}%
 \fi
}

```

```

\define@boolkey{glossaries.sty}[gls]{toc}[true]{}
\define@boolkey{glossaries.sty}[gls]{numberline}[true]{}
\ifcsundef{chapter}%
 {\newcommand*\@@glossarysec}{section}}%
 {\newcommand*\@@glossarysec}{chapter}}
\define@choicekey{glossaries.sty}{section}{part,chapter,section,%
subsection,subsubsection,paragraph,subparagraph}[section]{}%
 \renewcommand*\@@glossarysec{#1}}
\newcommand*\@@glossarysecstar{*}%
\newcommand*\@@glossaryseclabel{}%
\newcommand*\glsautoprefix{}%
\define@choicekey{glossaries.sty}{numberedsection}%
 [\gls@numberedsection@val\gls@numberedsection@nr]{}%
false,nolabel,autolabel,nameref}[nolabel]{}%
 \ifcase\gls@numberedsection@nr\relax
 \renewcommand*\@@glossarysecstar{*}%
 \renewcommand*\@@glossaryseclabel{}%
 \or
 \renewcommand*\@@glossarysecstar{}%
 \renewcommand*\@@glossaryseclabel{}%
 \or
 \renewcommand*\@@glossarysecstar{}%
 \renewcommand*\@@glossaryseclabel{}%
 \label{\glsautoprefix@glo@type}}%
 \or
 \renewcommand*\@@glossarysecstar{*}%
 \renewcommand*\@@glossaryseclabel{}%
 \protected@edef\@currentlabelname{\glossarytoctitle}%
 \label{\glsautoprefix@glo@type}}%
 \fi
}
\@ifpackageloaded{classicthesis}
{\newcommand*\@glossary@default@style}{index}}
{\newcommand*\@glossary@default@style}{list}}
\define@key{glossaries.sty}{style}{}%
 \def\@glossary@default@style{#1}}
}
\newcommand*\@gls@declareoption}[2]{}%
 \DeclareOptionX{#1}{#2}}%
 \DeclareOption{#1}{#2}}%
}
\newcommand*\glossaryentrynumbers}[1]{#1\gls@save@numberlist{#1}}
\@gls@declareoption{nonumberlist}{}%
 \renewcommand*\glossaryentrynumbers}[1]{\gls@save@numberlist{#1}}%
}
\define@boolkey{glossaries.sty}[gls]{savenumberlist}[true]{}
\gls@savenumberlistfalse
\newcommand*\@glo@seeautonumberlist{}
\@gls@declareoption{seeautonumberlist}{}%
 \renewcommand*\@glo@seeautonumberlist{}%

```

```

\def\@glo@prefix{\glsnextpages}%
}%
}
\define@boolkey{glossaries.sty}[gls]{esclocations}[true]{}
\glsesclocationsfalse
\newcommand*\@gls@loadlong{\RequirePackage{glossary-long}}
\@gls@declareoption{no long}{\renewcommand*\@gls@loadlong{}}
\IfFileExists{supertabular.sty}{%
\newcommand*\@gls@loadsuper{\RequirePackage{glossary-super}}}{%
\newcommand*\@gls@loadsuper{}}
\@ifpackageloaded{xtab}{\renewcommand*\@gls@loadsuper{}}{}
\@gls@declareoption{nosuper}{\renewcommand*\@gls@loadsuper{}}
\newcommand*\@gls@loadlist{\RequirePackage{glossary-list}}
\@gls@declareoption{no list}{%
\renewcommand*\@gls@loadlist}{%
\ifdefstring{\@glossary@default@style}{list}%
{\let\@glossary@default@style\relax}%
}}%
}%
}
\newcommand*\@gls@loadtree{\RequirePackage{glossary-tree}}
\@gls@declareoption{notree}{\renewcommand*\@gls@loadtree{}}
\@gls@declareoption{nostyles}{%
\renewcommand*\@gls@loadlong}{%
\renewcommand*\@gls@loadsuper}{%
\renewcommand*\@gls@loadlist}{%
\renewcommand*\@gls@loadtree}{%
\let\@glossary@default@style\relax
}
\newcommand*\@gls@postdescription}{%
\ifglsnopostdot\else.\spacefactor\sfcode`. \fi
}
\define@boolkey{glossaries.sty}[gls]{nopostdot}[true]{}
\glsnopostdotfalse
\define@boolkey{glossaries.sty}[gls]{nogroupskip}[true]{}
\glsnogroupskipfalse
\define@boolkey{glossaries.sty}[gls]{ucmark}[true]{}
\@ifclassloaded{memoir}
{%
\glsucmarktrue
}%
{%
\glsucmarkfalse
}
\newcommand*\@gls@define@glossaryentrycounter}{%
\ifglsentrycounter
\ifundef\c@glossaryentry
{%
\ifx\@gls@counterwithin\@empty
\newcounter{glossaryentry}%

```

```

 \else
 \newcounter{glossaryentry}[\@gls@counterwithin]%
 \fi
 \def\theHglossaryentry{\currentglossary.\theglossaryentry}%
 }%
 {}%
\fi
}
\define@boolkey{glossaries.sty}[gls]{entrycounter}[true]{}
\glstentrycounterfalse
\define@key{glossaries.sty}{counterwithin}{%
 \renewcommand*{\@gls@counterwithin}{#1}%
 \glstentrycountertrue
 \@gls@define@glossaryentrycounter
}
\newcommand*{\@gls@counterwithin}{}
\newcommand{\@gls@define@glossarysubentrycounter}{%
 \ifundef\c@glossarysubentry
 {%
 \ifglssubentrycounter
 \ifglstentrycounter
 \newcounter{glossarysubentry}[glossaryentry]%
 \else
 \newcounter{glossarysubentry}%
 \fi
 \fi
 \def\theHglossarysubentry{\currentglossary.\currentglssubentry.\theglossarysubentry}%
 }%
 {}%
}
\define@boolkey{glossaries.sty}[gls]{subentrycounter}[true]{}
\glssubentrycounterfalse
\newcommand{\glsindexingsetting}{\ifglsxindy xindy\else makeindex\fi}
\newcommand*{\@glo@default@sorttype}{standard}
\define@choicekey{glossaries.sty}{sort}{standard,def,use,none,clear}{%
 \renewcommand*{\@glo@default@sorttype}{#1}%
 \csname @gls@setupsort@#1\endcsname
}
\newcommand*{\glsprestandardsort}[3]{%
 \glsdosanitizesort
}
\newcommand*{\@glo@check@sortallowed}[1]{}
\newcommand*{\@gls@setupsort@standard}{%
 \def\do@glo@storeentry{\@glo@storeentry}%
 \def\@gls@defsortcount##1{%
 \def\@gls@defsort##1##2{%
 \ifx\@glo@sort\@glsdefaultsort
 \let\@glo@sort\@glo@name
 \fi
 \let\glsdosanitizesort\@gls@sanitizesort
 }
 }
}

```

```

\glsprestandardsort{\@glo@sort}{##1}{##2}%
\expandafter\protected@xdef\csname glo@##2@sort\endcsname{\@glo@sort}%
}%
\def\@gls@setsort##1{%
\let\@glo@check@sortallowed\@gobble
}
\@gls@setupsort@standard
\newcommand*\glsortnumberfmt [1]{%
\ifnum#1<100000 0\fi
\ifnum#1<10000 0\fi
\ifnum#1<1000 0\fi
\ifnum#1<100 0\fi
\ifnum#1<10 0\fi
\number#1%
}
\newcommand*\@gls@setupsort@def}{%
\def\do@glo@storeentry{\@glo@storeentry}%
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
\ifcsundef{glossary@##1@sortcount}%
{\@gls@defsortcount{##1}}%
}%
\expandafter\global\expandafter
\advance\csname glossary@##1@sortcount\endcsname by 1\relax
\expandafter\protected@xdef\csname glo@##2@sort\endcsname{%
\expandafter\glsortnumberfmt
{\csname glossary@##1@sortcount\endcsname}}%
}%
\def\@gls@setsort##1{%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*\@gls@setupsort@use}{%
\let\do@glo@storeentry\@gobble
\def\@gls@defsortcount##1{%
\expandafter\global
\expandafter\newcount\csname glossary@##1@sortcount\endcsname
}%
\def\@gls@defsort##1##2{%
\expandafter\gdef\csname glo@##2@sort\endcsname{}%
}%
\def\@gls@setsort##1{%
\protected@edef\@glo@parent{\csname glo@##1@parent\endcsname}%
\ifx\@glo@parent\@empty
\else
\expandafter\@gls@setsort\expandafter{\@glo@parent}%
\fi
\protected@edef\@glo@type{\csname glo@##1@type\endcsname}%

```

```

\protected@edef\@gls@tmp{\csname glo@##1@sort\endcsname}%
\ifx\@gls@tmp\@empty
\expandafter\global\expandafter
\advance\csname glossary@\@glo@type @sortcount\endcsname by 1\relax
\expandafter\protected@xdef\csname glo@##1@sort\endcsname{%
\expandafter\glssortnumberfmt
{\csname glossary@\@glo@type @sortcount\endcsname}}%
\@glo@storeentry{##1}%
\fi
}%
\let\@glo@check@sortallowed\@gobble
}
\newcommand*{\@gls@setupsort@none}{%
\def\glsindexingsetting{none}%
\def\do@glo@storeentry##1{%
\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{%
\expandafter\global\expandafter\let\csname glo@##2@sort\endcsname\@glo@sort
}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=none not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*{\@gls@setupsort@clear}{%
\def\glsindexingsetting{none}%
\def\do@glo@storeentry##1{%
\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{\csgdef{glo@##2@sort}{}}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=clear not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*{\glsdefmain}{%
\if@gls@docloaded
\newglossary[glg2]{main}{gls2}{glo2}{\glossaryname}%
\else
\newglossary{main}{gls}{glo}{\glossaryname}%
\fi
\newcommand*{\gls@tr@set@main@toctitle}{%
\translatelet{\glossarytoctitle}{Glossary}%
}%
}
\newcommand*{\glsdefaulttype}{main}
\newcommand*{\acronymtype}{\glsdefaulttype}
\@gls@declareoption{nomain}{%
\let\glsdefaulttype\relax
\renewcommand*{\glsdefmain}{%
}

```

```

\define@boolkey{glossaries.sty}[gls]{acronym}[true]{%
 \ifglsacronym
 \renewcommand{\@gls@do@acronymsdef}{%
 \DeclareAcronymList{acronym}%
 \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
 \renewcommand*{\acronymtype}{acronym}%
 \newcommand*\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
 \else
 \let\@gls@do@acronymsdef\relax
 \fi
}
\AtBeginDocument{%
 \ifglsacronym
 \providecommand*\printacronyms[1][1]{%
 \printglossary[type=\acronymtype,#1]}%
 \fi
}
\newcommand*\@gls@do@acronymsdef{}
\@gls@declareoption{acronyms}{%
 \glsacronymtrue
 \def\@gls@do@acronymsdef{%
 \DeclareAcronymList{acronym}%
 \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
 \renewcommand*{\acronymtype}{acronym}%
 \newcommand*\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
}
\newcommand*\@gls@acronymlists{}
\newcommand*\@addtoacronymlists[1]{%
 \ifx\@gls@acronymlists\@empty
 \protected@xdef\@gls@acronymlists{#1}%
 \else
 \protected@xdef\@gls@acronymlists{\@gls@acronymlists,#1}%
 \fi
}
\newcommand*\DeclareAcronymList[1]{%
 \glsIfListOfAcronyms{#1}{\@addtoacronymlists{#1}}%
}
\newcommand*\glsIfListOfAcronyms[1]{%
 \protected@edef\@do@gls@islistofacronyms{%
 \noexpand\@gls@islistofacronyms{#1}{\@gls@acronymlists}}%
 \@do@gls@islistofacronyms
}
\newcommand*\@gls@islistofacronyms[4]{%
 \def\@gls@islistofacronyms##1,#1,##2\end@gls@islistofacronyms{%

```

```

\def\@gls@before{##1}\def\@gls@after{##2}}%
\gls@islistofacronyms,#2,#1,\@nil\end\gls@islistofacronyms
\ifx\@gls@after\@nnil
#4%
\else
#3%
\fi
}
\newif\if@gls@isacronymlist
\newcommand*\@gls@checkisacronymlist}[1]{%
\glsIfListOfAcronyms{#1}%
{\@gls@isacronymlisttrue}{\@gls@isacronymlistfalse}%
}
\newcommand*\@SetAcronymLists}[1]{%
\renewcommand*\@gls@acronymlists{#1}%
}
\define@key{glossaries.sty}{acronymlists}{%
\DeclareAcronymList{#1}%
}
\newcommand*\@gls@counter{page}
\define@key{glossaries.sty}{counter}{%
\renewcommand*\@gls@counter{#1}%
}
\newcommand*\@gls@nohyperlist{}
\newcommand*\@GlsDeclareNoHyperList}[1]{%
\ifdefempty\@gls@nohyperlist
{%
\renewcommand*\@gls@nohyperlist{#1}%
}%
{%
\appto\@gls@nohyperlist{,#1}%
}%
}
\define@key{glossaries.sty}{nohypertypes}{%
\GlsDeclareNoHyperList{#1}%
}
\newcommand*\@GlossariesWarning}[1]{%
\PackageWarning{glossaries}{#1}%
}
\newcommand*\@GlossariesWarningNoLine}[1]{%
\PackageWarningNoLine{glossaries}{#1}%
}
\newcommand*\@glosortentrieswarning{%
\typeout{Using TeX to sort glossary entries---this may
take a while}%
}
\@gls@declareoption{nowarn}{%
\if@gls@debug
\GlossariesWarning{Warnings can't be suppressed in debug mode}%
\else

```



```

\renewcommand*\GlossariesWarning}[1]{%
\renewcommand*\GlossariesWarningNoLine}[1]{}%
\renewcommand*\glosortentrieswarning}{}%
\renewcommand*\@gls@missinglang@warn}[2]{}%
\fi
}
\newcommand*\@gls@missinglang@warn}[2]{%
\PackageWarningNoLine{glossaries}%
{No language module detected for ‘#1’.\MessageBreak
Language modules need to be installed separately.\MessageBreak
Please check on CTAN for a bundle called\MessageBreak
‘glossaries-#2’ or similar}%
}
\@gls@declareoption{noLANGwarn}{%
\renewcommand*\@gls@missinglang@warn}[2]{}%
}
\newcommand*\@gls@warnonglossdefined}{%
\GlossariesWarning{Overriding \string\printglossary}%
}
\newcommand*\@gls@warnontheGlossdefined}{%
\GlossariesWarning{Overriding ‘theGlossary’ environment}%
}
\@gls@declareoption{noRedefwarn}{%
\renewcommand*\@gls@warnonglossdefined}{}%
\renewcommand*\@gls@warnontheGlossdefined}{}%
}
\newcommand*\glssetexpandfield}[1]{%
\csdef{gls@assign@#1@field}##1##2{%
\@gls@expand@field{##1}{#1}{##2}%
}%
}
\newcommand*\glssetnoexpandfield}[1]{%
\csdef{gls@assign@#1@field}##1##2{%
\@gls@noexpand@field{##1}{#1}{##2}%
}%
}
\glssetexpandfield{type}
\glssetnoexpandfield{desc}
\glssetnoexpandfield{descplural}
\newcommand*\@gls@sanitizename}{%
\glssetnoexpandfield{name}
\newcommand*\@gls@sanitizesymbol}{%
\glssetnoexpandfield{symbol}
\glssetnoexpandfield{symbolplural}
\newcommand*\@gls@sanitizesort}{%
\ifgls@sanitizesort
\@gls@sanitizesort
\else
\@gls@nosanitizesort
\fi

```

```

}
\newcommand*{\@gls@sanitizesort{%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@gls@nosanitizesort}{%}
\newcommand*{\@gls@noidx@sanitizesort{%
 \ifdefvoid\@glo@sort
 }%
 {%
 \expandafter\@gls@noidx@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@gls@noidx@sanitizesort#1#2\gls@end@sanitizesort{%
 \def\@glo@sort{#1#2}%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@gls@noidx@nosanitizesort}{%
 \ifdefvoid\@glo@sort
 }%
 {%
 \expandafter\@gls@noidx@no@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@gls@noidx@no@sanitizesort#1#2\gls@end@sanitizesort{%
 \bgroup
 \glsnoidxstripaccents
 \protected@xdef\@glo@sort{#1#2}%
 \egroup
 \let\@glo@sort\@glo@sort
}
\newcommand*\glsnoidxstripaccents{%
 \let\IeC\@firstofone
 \let\add@accent@\@secondoftwo
 \let\@text@composite@x\@secondoftwo
 \let\@tabacckludge\@secondoftwo
 \expandafter\def\csname \encodingdefault-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname OT1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname T1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname PD1-cmd\endcsname##1##2##3{##3}%
 \let'\@firstofone
 \let'\@firstofone
 \let^\@firstofone
 \let"@@firstofone
 \let\u\@firstofone
 \let\t\@firstofone
 \let\d\@firstofone
 \let\r\@firstofone
 \let=\@firstofone
 \let.\@firstofone
 \let~\@firstofone

```

```

\let\v\@firstofone
\let\H\@firstofone
\let\c\@firstofone
\let\b\@firstofone
\let\a\@secondoftwo
\def\AE{AE}%
\def\ae{ae}%
\def\OE{OE}%
\def\oe{oe}%
\def\AA{AA}%
\def\aa{aa}%
\def\L{L}%
\def\l{l}%
\def\O{O}%
\def\o{o}%
\def\SS{SS}%
\def\ss{ss}%
\def\th{th}%
\def\TH{TH}%
\def\dh{dh}%
\def\DH{DH}%
}
\@ifl@t@r\fmtversion{2019/10/01}
{%
\appto\glsnoidxstripaccents{\let\UTFviii@two@octets\UTFviii@two@octets@combine}%
}
{}
\newcommand{\@gls@removedoption}[1]{%
\PackageError{glossaries}{obsolete package option ‘#1’ has been
removed. Rollback required or use a newer alternative}
{Try \string\usepackage[#1]{glossaries}[=v4.46]}%
}
\define@boolkey[gls]{sanitize}{description}[true]{%
\GlossariesWarning{sanitize={description} package option deprecated}%
\ifgls@sanitize@description
\glssetnoexpandfield{desc}%
\glssetnoexpandfield{descplural}%
\else
\glssetexpandfield{desc}%
\glssetexpandfield{descplural}%
\fi
}
\define@boolkey[gls]{sanitize}{name}[true]{%
\GlossariesWarning{sanitize={name} package option deprecated}%
\ifgls@sanitize@name
\glssetnoexpandfield{name}%
\else
\glssetexpandfield{name}%
\fi
}
}

```

```

\define@boolkey[glS]{sanitize}{symbol}[true]{%
 \GlossariesWarning{sanitize={symbol} package option deprecated}%
 \ifglS@sanitize@symbol
 \glSsetnoexpandfield{symbol}%
 \glSsetnoexpandfield{symbolplural}%
 \else
 \glSsetexpandfield{symbol}%
 \glSsetexpandfield{symbolplural}%
 \fi
}
\define@boolkey{glossaries.sty}[glS]{sanitizesort}[true]{%
 \ifglSsanitizesort
 \glSsetnoexpandfield{sortvalue}%
 \renewcommand*{\@glS@noidx@setsanitizesort}{%
 \glSsanitizesorttrue
 \glSsetnoexpandfield{sortvalue}%
 }%
 \else
 \glSsetexpandfield{sortvalue}%
 \renewcommand*{\@glS@noidx@setsanitizesort}{%
 \glSsanitizesortfalse
 \glSsetexpandfield{sortvalue}%
 }%
 \fi
}
\glSsanitizesorttrue
\glSsetnoexpandfield{sortvalue}%
\newcommand*{\@glS@noidx@setsanitizesort}{%
 \glSsanitizesortfalse
 \glSsetexpandfield{sortvalue}%
}
\define@choicekey[glS]{sanitize}{sort}{true,false}[true]{%
 \setbool{glSsanitizesort}{#1}%
 \ifglSsanitizesort
 \glSsetnoexpandfield{sortvalue}%
 \else
 \glSsetexpandfield{sortvalue}%
 \fi
 \GlossariesWarning{sanitize={sort} package option
 deprecated. Use sanitizesort instead}%
}
\define@key{glossaries.sty}{sanitize}[description=true,symbol=true,name=true]{%
 \ifthenelse{\equal{#1}{none}}{%
 {%
 \GlossariesWarning{sanitize package option deprecated}%
 \glSsetexpandfield{name}%
 \glSsetexpandfield{symbol}%
 \glSsetexpandfield{symbolplural}%
 \glSsetexpandfield{desc}%
 \glSsetexpandfield{descplural}%
 }
 }
}

```

```

}%
{%
 \setkeys[glS]{sanitizE}{#1}%
}%
}
\newif\ifglstranslate
\newcommand*\@glS@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glSifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glSifusetranslator\@firstoftwo
 }%
 {}%
 }%
 {}%
 }%
}
\newcommand{\glSifusedtranslatorDict}[3]{%
 \glSifusetranslator
 {\ifcsdef{ver@glossaries-dictionary-#1.dict}{#2}{#3}}%
 {#3}%
}
\@glS@declareoption{notranslate}{%
 \glstranslatefalse
 \let\@glS@usetranslator\relax
 \let\glSifusetranslator\@secondoftwo
}
\define@choicekey{glossaries.sty}{translate}{%
 [\glS@translate@val\glS@translate@nr]%
 {true,false,babel}[true]%
 {%
 \ifcase\glS@translate@nr\relax
 \glstranslatetrue
 \renewcommand*\@glS@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glSifusetranslator\@secondoftwo
 }%
 {}%
 }%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%

```

```

 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 {}%
 }%
 {}%
 }%
 }%
\or
\glstranslatefalse
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
\or
\glstranslatetrue
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
\fi
}
\glstranslatefalse
\let\glsifusetranslator\@secondoftwo
\@ifpackageloaded{translator}%
{%
\glstranslatetrue
\let\glsifusetranslator\@firstoftwo
}%
{%
\@for\gls@thissty:=tracklang,babel,ngerman,polyglossia\do
{
\@ifpackageloaded{\gls@thissty}%
{%
\glstranslatetrue
\endfortrue
}%
}%
}
}
\newcommand{\@gls@requested@languages}{}
\define@key{glossaries.sty}{languages}{%
\renewcommand{\@gls@requested@languages}{#1}%
\glstranslatetrue
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
}
\define@boolkey{glossaries.sty}[gls]{indexonlyfirst}[true]{}
\glsindexonlyfirstfalse
\define@boolkey{glossaries.sty}[gls]{hyperfirst}[true]{}
\glshyperfirsttrue
\newcommand*{\@gls@setacrstyle}{}
\define@boolkey{glossaries.sty}[glsacr]{footnote}[true]{}
\ifglsacrfootnote

```

```

 \@gls@removedoption{footnote}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{description}[true]{%
 \ifglsacrdescription
 \@gls@removedoption{description}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{smallcaps}[true]{%
 \ifglsacrsmallcaps
 \@gls@removedoption{smallcaps}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{smaller}[true]{%
 \ifglsacrsmaller
 \@gls@removedoption{smaller}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{dua}[true]{%
 \ifglsacrdua
 \@gls@removedoption{dua}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{shortcuts}[true]{}
\newcommand*{\glsorder}{word}
\newcommand*{\@glsorder}[1]{}
\define@choicekey{glossaries.sty}{order}{word,letter}{%
 \def\glsorder{#1}}
\newif\ifglsxindy
\glsxindyfalse
\@gls@declareoption{makeindex}{\glsxindyfalse}
\define@boolkey[gls]{xindy}[glsnumbers][true]{}
\gls@xindy@glsnumberstrue
\def\@xdy@main@language{\languagename}%
\newcommand*{\gls@xdy@set@lang}[1]{%
 \ifcsundef{\@xdy@#1@language}%
 {%
 \ifcsundef{\@xdy@\glsdefaulttype @language}
 {\let\@gls@langmod\@xdy@main@language}%
 {\letcs\@gls@langmod{\@xdy@\glsdefaulttype @language}}}%
 }%
 {\letcs\@gls@langmod{\@xdy@#1@language}}%
}
\define@key[gls]{xindy}{language}{\def\@xdy@main@language{#1}}
\ifdefvoid\inputencodingname
 {\def\gls@codepage{utf8}}%
 {\def\gls@codepage{\inputencodingname}}
\define@key[gls]{xindy}{codepage}{\def\gls@codepage{#1}}
\define@key{glossaries.sty}{xindy}[]{}
 \glsxindytrue

```

```

\setkeys[glS]{xindy}{#1}%
}
\@glS@declareoption{xindygloss}{%
 \glSxindytrue
}
\@glS@declareoption{xindynoglsnumbers}{%
 \glSxindytrue
 \glSxindy@glSnumbersfalse
}
\providecommand{\@domakeglossaries}[1]{\if@filesw #1\fi}
\@glS@declareoption{disablemakegloss}{%
 \ifdefequal\makeglossaries\@no@makeglossaries
 {%
 \GlossariesWarning{Option ‘disablemakegloss’ has no effect
 (\string\makenoidxglossaries\space has already been used)}%
 }%
 {%
 \ifdefequal\@makeglossary\@gobble
 {%
 \GlossariesWarning{Option ‘disablemakegloss’ has no effect
 (\string\makeglossaries\space has already been used)}%
 }%
 }%
 \renewcommand{\@domakeglossaries}[1]{%
 \PackageInfo{glossaries}{\string\makeglossaries\space and
 \string\makenoidxglossaries\space have been disabled}%
 }%
}
}
\@glS@declareoption{restoremakegloss}{%
 \ifdefequal\makeglossaries\@no@makeglossaries
 {%
 \GlossariesWarning{Option ‘restoremakegloss’ has no effect
 (\string\makenoidxglossaries\space has already been used)}%
 }%
 {%
 \ifdefequal\@makeglossary\@gobble
 {%
 \GlossariesWarning{Option ‘restoremakegloss’ has no effect
 (\string\makeglossaries\space has already been used)}%
 }%
 }%
 \PackageInfo{glossaries}{\string\makeglossaries\space and
 \string\makenoidxglossaries\space have been restored}%
 \let\@domakeglossaries\@firstofone
}
}
\newcommand*{\@do@write@glSlabels}{%

```



```

\AtEndDocument{\do@write@glslabels}%
\let\do@write@glslabels\relax
}
\newcommand*{\do@write@glslabels}{%
 \newwrite\@gls@labelsfile
 \immediate\openout\@gls@labelsfile=\jobname.glslabels
 \protected@edef\@gls@fulllist{\@glo@types}%
 \ifdefempty{\@ignored@glossaries}{}%
 {\protected@eappto\@gls@fulllist{\@ignored@glossaries}}%
 \forallglsentries[\@gls@fulllist]{\@glsentry}%
 {%
 \ifdefempty{\@glsentry}{}%
 {%
 \ifx\do@write@glslabelsname@gobble
 \def\@gls@thisentryname{%
 \else
 \letcs{\@gls@thisentryname}{glo@\@glsdetoklabel{\@glsentry}@name}%
 \@onelevel@sanitize\@gls@thisentryname
 \fi
 \immediate\write\@gls@labelsfile
 {\@glsentry\do@write@glslabelsname{\@gls@thisentryname}}%
 }%
 }%
 \immediate\closeout\@gls@labelsfile
 }
}
\newcommand*{\do@write@glslabelsname}[1]{%
 \begingroup
 \catcode'\^^I12
 \gdef\@write@glslabelsname#1{\^^I#1}
 \endgroup
 \@gls@declareoption{writeglslabels}{\do@write@glslabels
 \let\do@write@glslabelsname@gobble}
 \@gls@declareoption{writeglslabelnames}{\do@write@glslabels
 \let\do@write@glslabelsname@write@glslabelsname}
 \newif\ifglsautomake
 \newcommand{\gls@automake@nr}{1}
 \newcommand{\gls@automake@makegloss}{%
 \newcommand{\gls@automake@option}{automake=\gls@automake@val}
 \newcommand*{\@gls@do@automake@err}{%
 \PackageError{glossaries}{You must use
 \string\makeglossaries\space with \gls@automake@option}
 {%
 Either remove the \gls@automake@option\space setting or
 add \string\makeglossaries\space to your document preamble.%
 }%
 }%
 }
}
\define@choicekey{glossaries.sty}{automake}%
 [\gls@automake@val\gls@automake@nr]{true,false,immediate,makegloss,lite,delayed}[immediate]{%
 \ifcase\gls@automake@nr\relax
 \GlossariesWarning{automake=true deprecated. Use automake=delayed for a delayed write}%
 }

```

```

\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomakefalse
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
\or
\def\gls@automake@nr{0}%
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\fi
\renewcommand{\gls@automake@option}{automake=\gls@automake@val}%
\ifglsautomake
\let\@gls@doautomake\@gls@do@automake@err
\else
\renewcommand*\@gls@doautomake{}%
\fi
}
\glsautomakefalse
\newcommand*\@gls@doautomake{}
\AtEndDocument{\@gls@doautomake}
\@gls@declareoption{automakegloss}{%
\glsautomaketrue
\renewcommand{\gls@automake@option}{automakegloss}%
\def\gls@automake@val{makegloss}%
\def\gls@automake@nr{3}%
\renewcommand{\gls@automake@makegloss}{makeglossaries}%
\let\@gls@doautomake\@gls@do@automake@err
}
\@gls@declareoption{automakeglosslite}{%
\glsautomaketrue
\renewcommand{\gls@automake@option}{automakeglosslite}%
\def\gls@automake@val{lite}%
\def\gls@automake@nr{4}%
\renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
\let\@gls@doautomake\@gls@do@automake@err
}
\define@boolkey{glossaries.sty}[gls]{savewrites}[true]{%
\ifgls savewrites
\renewcommand*\@gls@writefiles{\@gls@writefiles}%
\else
\let\@gls@writefiles\@empty

```

```

\fi
}
\glssavewritesfalse
\let\glswritefiles\@empty
\define@boolkey{glossaries.sty}[gls]{compatible-3.07}[true]{%
 \ifbool{glscompatible-3.07}%
 {%
 \@gls@removedoption{compatible-3.07}%
 }%
 {}%
}
\boolfalse{glscompatible-3.07}
\define@boolkey{glossaries.sty}[gls]{compatible-2.07}[true]{%
 \ifbool{glscompatible-2.07}%
 {%
 \@gls@removedoption{compatible-2.07}%
 }%
 {}%
}
\boolfalse{glscompatible-2.07}
\let\gls@original@makeglossary\makeglossary
\let\gls@original@glossary\glossary
\newcommand*{\@gls@override@glossary}[1][main]{%
 \GlossariesWarning{Use of \string\glossary\space with
glossaries.sty is deprecated. \MessageBreak Indexing should be performed
with the user level \MessageBreak commands, such as \string\gls\space or
\string\glsadd. If you need the \MessageBreak original definition of
\string\glossary\space use the package \MessageBreak options
kernelglossredefs=false (to restore the \MessageBreak former definition of
\string\glossary) and nomain (if the \MessageBreak file extensions cause a
conflict)}}%
\gls@glossary{#1}%
}
\define@choicekey{glossaries.sty}{kernelglossredefs}%
[\gls@kernelglossredefs@val\gls@kernelglossredefs@nr]{true,false,nowarn}[true]%
{%
 \ifcase\gls@kernelglossredefs@nr\relax
 \def\glossary{\@gls@override@glossary}%
 \def\makeglossary{%
 \GlossariesWarning{Use of \string\makeglossary\space with
glossaries.sty is deprecated. Use \string\makeglossaries\space
instead. If you need the original definition of
\string\makeglossary\space use the package options
kernelglossredefs=false (to prevent redefinition of
\string\makeglossary) and nomain (if the file extensions cause a
conflict)}}%
 \makeglossaries
 }%
\or
 \let\glossary\gls@original@glossary

```

```

\let\makeglossary\gls@original@makeglossary
\or
\def\makeglossary{\makeglossaries}%
\renewcommand*{\@gls@override@glossary}[1][main]{%
 \gls@glossary{##1}%
}%
\fi
}
\@gls@declareoption{symbols}{%
 \let\@gls@do@symbolsdef\@gls@symbolsdef
}
\newcommand*{\@gls@do@symbolsdef}{%
\newcommand*{\@gls@symbolsdef}{%
 \newglossary[slg]{symbols}{sls}{slo}{\glsymbolsgroupname}%
 \newcommand*{\printsymbols}[1][\printglossary[type=symbols,##1]]{%
 \newcommand*{\gls@tr@set@symbols@toctitle}{%
 \translatelet{\glossarytoctitle}{Symbols (glossaries)}%
 }%
}%
\@gls@declareoption{numbers}{%
 \let\@gls@do@numbersdef\@gls@numbersdef
}
\newcommand*{\@gls@do@numbersdef}{%
\newcommand*{\@gls@numbersdef}{%
 \newglossary[nlg]{numbers}{nls}{nlo}{\glnumbersgroupname}%
 \newcommand*{\printnumbers}[1][\printglossary[type=numbers,##1]]{%
 \newcommand*{\gls@tr@set@numbers@toctitle}{%
 \translatelet{\glossarytoctitle}{Numbers (glossaries)}%
 }%
}%
\@gls@declareoption{index}{%
 \ifx\@gls@do@indexdef\@empty
 \let\@gls@do@indexdef\@gls@indexdef
 \fi
}
\@gls@declareoption{noglossaryindex}{%
 \let\@gls@do@indexdef\relax
}
\newcommand*{\@gls@do@indexdef}{%
\newcommand*{\@gls@indexdef}{%
 \newglossary[ilg]{index}{ind}{idx}{\indexname}%
 \newcommand*{\printindex}[1][\printglossary[type=index,##1]]{%
 \newcommand*{\newterm}[2][%
 \newglossaryentry{##2}%
 {type={index},name={##2},description={\nopostdesc},##1}}
 \let\@gls@do@indexdef\relax
}%
}
\define@choicekey{glossaries.sty}{mfirstuc}{%
 [\gls@mfirstuc@val\gls@mfirstuc@nr]%
 {expanded,unexpanded}%
}

```

```

{%
 \ifcase\gls@mfirstuc@nr
 % expanded
 \renewcommand*\glsmakefirstuc}[1]{\MFUsentencecase{#1}}%
 \or
 % unexpanded
 \renewcommand*\glsmakefirstuc}[1]{\MFUsentencecase{\unexpanded{#1}}}%
 \fi
}
\@for\CurrentOption :=\@declaredoptions\do{%
 \ifx\CurrentOption\@empty
 \else
 \@expandtwoargs
 \in@ {\, \CurrentOption ,}{, \@classoptionslist, \@curroptions,}%
 \ifin@
 \@use@ption
 \expandafter \let\csname ds@\CurrentOption\endcsname\@empty
 \fi
 \fi
}
\ProcessOptionsX
\ifglsautomake
\ifdef\directlua{\RequirePackage{shellesc}}{}
\fi
\disable@keys{glossaries.sty}{compatible-2.07,%
xindy,xindygloss,xindynoglsnumbers,makeindex,%
acronym,translate,notranslate,languages,nolong,nosuper,notree,nostyles,%
nomain,noglossaryindex}
\newcommand*\setupglossaries}[1]{%
 \renewcommand*\@gls@setacrstyle}{}%
 \ifglsacrshortcuts
 \def\@gls@setupshortcuts{\glsacrshortcutstrue}%
 \else
 \def\@gls@setupshortcuts{%
 \ifglsacrshortcuts
 \DefineAcronymSynonyms
 \fi
 }%
 \fi
 \glsacrshortcutsfalse
 \let\@gls@do@numbersdef\relax
 \let\@gls@do@symbolssdef\relax
 \let\@gls@do@indexdef\relax
 \let\@gls@do@acronymsdef\relax
 \ifglsentrycounter
 \let\@gls@doentrycounterdef\relax
 \else
 \let\@gls@doentrycounterdef\@gls@define@glossaryentrycounter
 \fi
 \ifgls@subentrycounter

```

```

\let\@gls@dosomeentrycounterdef\relax
\else
\let\@gls@dosomeentrycounterdef\@gls@define@glossarysubentrycounter
\fi
\setkeys{glossaries.sty}{#1}%
\@gls@setacrstyle
\@gls@setupshortcuts
\@gls@do@acronymsdef
\@gls@do@numbersdef
\@gls@do@symbolssdef
\@gls@do@indexdef
\@gls@doentrycounterdef
\@gls@dosomeentrycounterdef
}
\ifthenelse{\equal{\glscounter}{section}}%
{%
\ifcsundef{chapter}{}%
{%
\let\@gls@old@chapter\@chapter
\def\@chapter[#1]#2{\@gls@old@chapter[#1]}{#2}%
\ifcsundef{hyperdef}{\hyperdef{section}{\thesection}}}%
}%
}%
{}
\newcommand*\@gls@onlypremakeg{}
\newcommand*\@onlypremakeg[1]{%
\ifx\@gls@onlypremakeg\@empty
\def\@gls@onlypremakeg{#1}%
\else
\expandafter\toks\expandafter{\@gls@onlypremakeg}%
\edef\@gls@onlypremakeg{\the\toks@,\noexpand#1}%
\fi
}
\newcommand*\@disable@onlypremakeg{%
\@for\@thiscs:=\@gls@onlypremakeg\do{%
\expandafter\@disable@premakecs\@thiscs%
}}
\newcommand*\@disable@premakecs[1]{%
\def#1{\PackageError{glossaries}{\string#1\space may only be
used before \string\makeglossaries}{You can't use
\string#1\space after \string\makeglossaries}}%
}
\providecommand*\glossaryname{Glossary}
\providecommand*\acronymname{Acronyms}
\newcommand*\glssettoctitle[1]{%
\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}
\providecommand*\entryname{Notation}
\providecommand*\descriptionname{Description}
\providecommand*\symbolname{Symbol}
\providecommand*\pagelistname{Page List}

```

```

\providecommand*\glssymbolsgroupname}{Symbols}
\providecommand*\glsnumbersgroupname}{Numbers}
\newcommand*\glspluralsuffix}{s}
\newcommand*\glsacrpluralsuffix}{\glspluralsuffix}
\newcommand*\glsupacrpluralsuffix}{\glstextup{\glsacrpluralsuffix}}
\providecommand*\seename}{see}
\providecommand*\andname}{\&}
\newcommand*\RequireGlossariesLang}[1]{%
 \ifundefined{ver@glossaries-#1.ldf}{\input{glossaries-#1.ldf}}{}%
}
\newcommand*\ProvidesGlossariesLang}[1]{%
 \ProvidesFile{glossaries-#1.ldf}%
}
\newcommand*\addglossarytocaptions}[1]{}
\ifglstranslate
 \RequirePackage{tracklang}[2019/11/30]
 \ifvoid\@gls@requested@languages{}%
 {%
 \for\@gls@thislang:=\@gls@requested@languages\do{%
 \TrackIfKnownLanguage{\@gls@thislang}{}%
 {\GlossariesWarning{unknown language ‘\@gls@thislang’}}%
 }%
 }%
 \@gls@usetranslator
 \@ifpackageloaded{translator}
 {%
 \ifboolexpr
 {
 test {\ifdefstring{\trans@languages}{English}}
 and not
 test {\ifdefstring{bbl@loaded}{english}}
 }
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \usedictionary{glossaries-dictionary}%
 \renewcommand*\addglossarytocaptions}[1]{%
 \ifcsundef{captions#1}{}%
 {%
 \expandafter\let\expandafter\@gls@tmp\csname captions#1\endcsname
 \expandafter\toks@\expandafter{\@gls@tmp
 \renewcommand*\glossaryname}{\translate{Glossary}}%
 }%
 \expandafter\edef\csname captions#1\endcsname{\the\toks@}%
 }%
 }%
 }%
 }%
}{}%

```

```

\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 {%
 \@gls@missinglang@warn\this@dialect\CurrentTrackedLanguage
 }%
 }%
}%
{}%
\glsifusetranslator
{%
 \renewcommand*\glssettoctitle}[1]{%
 \ifcsdef{gls@tr@set@#1@toctitle}%
 {%
 \csuse{gls@tr@set@#1@toctitle}%
 }%
 {%
 \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}%
 }%
 }%
 \renewcommand*\glossaryname{\translate{Glossary}}%
 \renewcommand*\acronymname{\translate{Acronyms}}%
 \renewcommand*\entryname{\translate{Notation (glossaries)}}%
 \renewcommand*\descriptionname{%
 \translate{Description (glossaries)}}%
 \renewcommand*\symbolname{\translate{Symbol (glossaries)}}%
 \renewcommand*\pagelistname{%
 \translate{Page List (glossaries)}}%
 \renewcommand*\glssymbolsgroupname{%
 \translate{Symbols (glossaries)}}%
 \renewcommand*\glsnumbersgroupname{%
 \translate{Numbers (glossaries)}}%
}%
}{}%
\fi
\DeclareRobustCommand*\nopostdesc{}
\newcommand*\@nopostdesc{%
 \let\org@glspostdescription\glspostdescription
 \def\glspostdescription{%
 \let\glspostdescription\org@glspostdescription}%
}
\newcommand*\@no@post@desc{\nopostdesc}
\newcommand*\glspar{\par}
\newcommand*\setStyleFile[1]{%
 \renewcommand*\gls@istfilebase{#1}%
}

```



```

\ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
\else
 \def\istfilename{\gls@istfilebase.ist}
\fi
}
\@onlypremakeg\setStyleFile
\ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
\else
 \def\istfilename{\gls@istfilebase.ist}
\fi
\newcommand*\gls@istfilebase{\jobname}
\newcommand*\@istfilename[1]{
\newcommand*\glscompositor{.}
\newcommand*\glsSetCompositor[1]{%
 \renewcommand*\glscompositor{#1}}
\@onlypremakeg\glsSetCompositor
\newcommand*\@glsAlphacompositor{\glscompositor}
\ifglxindy
 \newcommand*\glsSetAlphaCompositor[1]{%
 \renewcommand*\@glsAlphacompositor{#1}}
\else
 \newcommand*\glsSetAlphaCompositor[1]{%
 \glsnoxywarning\glsSetAlphaCompositor}
\fi
\@onlypremakeg\glsSetAlphaCompositor
\newcommand*\gls@suffixF{}
\newcommand*\glsSetSuffixF[1]{%
 \renewcommand*\gls@suffixF{#1}}
\@onlypremakeg\glsSetSuffixF
\newcommand*\gls@suffixFF{}
\newcommand*\glsSetSuffixFF[1]{%
 \renewcommand*\gls@suffixFF{#1}}
}
\ifcsundef{hyperlink}%
{%
 \newcommand*\glsnumberformat[1]{#1}%
}%
{%
 \newcommand*\glsnumberformat[1]{\glsnumber{#1}}%
}
\newcommand{\glslocationstoencap}[3]{\csuse{#2}{\csuse{#1}{#3}}}
\newcommand{\delimN}{, }
\newcommand{\delimR}{--}
\newcommand*\glossarypreamble{%
 \csuse{@glossarypreamble@currentglossary}%
}
\newcommand{\setglossarypreamble}[2][\glsdefaultttype]{%
 \ifglossaryexists*#1}%

```

```

{\csgdef{@glossary preamble@#1}{#2}}%
{\GlossariesWarning{Glossary ‘#1’ is not defined}}%
}
\newcommand*{\glossary postamble}{}
\newcommand*{\glossary section}[2][\@gls@title]{%
\def\@gls@title{#2}%
\ifcsundef{phantom section}%
{%
\@glossary section{#1}{#2}%
}%
{%
\@pglossary section{#1}{#2}%
}%
\glsglossary mark{\glossary toctitle}%
}
\ifcsundef{glossary mark}%
{%
\newcommand{\glsglossary mark}[1]{\glossary mark{#1}}
}%
{%
\@ifclassloaded{memoir}
{%
\newcommand{\glsglossary mark}[1]{%
\ifglsucmark
\markboth{\memUchead{#1}}{\memUchead{#1}}%
\else
\markboth{#1}{#1}%
\fi
}
}%
{%
\newcommand{\glsglossary mark}[1]{%
\ifglsucmark
\@mkboth{\glsupercase{#1}}{\glsupercase{#1}}%
\else
\@mkboth{#1}{#1}%
\fi
}
}
}
\providecommand{\glossary mark}[1]{%
\ifglsucmark
\@mkboth{\glsupercase{#1}}{\glsupercase{#1}}%
\else
\@mkboth{#1}{#1}%
\fi
}
\newcommand*{\setglossary section}[1]{%
\setkeys{glossaries.sty}{section=#1}}
\newcommand*{\@glossary section}[2]{%

```

```

\ifdefempty\@glossarysecstar
{%
 \csname\@glossarysec\endcsname[#1]{#2}%
}%
{%
 \csname\@glossarysec\endcsname*{#2}%
 \@gls@toc{#1}{\@glossarysec}%
}%
\@glossaryseclabel
}
\newcommand*\@pglossarysection}[2]{%
 \glsclearpage
 \phantomsection
 \ifdefempty\@glossarysecstar
 {%
 \csname\@glossarysec\endcsname{#2}%
 }%
 {%
 \@gls@toc{#1}{\@glossarysec}%
 \csname\@glossarysec\endcsname*{#2}%
 }%
 \@glossaryseclabel
}
\newcommand*\gls@docclearpage{%
 \ifthenelse{\equal{\@glossarysec}{chapter}}%
 {%
 \ifcsundef{cleardoublepage}%
 {%
 \clearpage
 }%
 {%
 \ifcsdef{if@openright}%
 {%
 \if@openright
 \cleardoublepage
 \else
 \clearpage
 \fi
 }%
 }%
 \cleardoublepage
 }%
}
\newcommand*\gls@docclearpage
\newcommand*\@gls@toc}[2]{%
 \ifglstoc
 \ifglsnumberline

```

```

 \addcontentsline{toc}{#2}{\protect\numberline{#1}}%
 \else
 \addcontentsline{toc}{#2}{#1}%
 \fi
\fi
}
\newcommand*\glsnoindeywarning}[1]{%
 \GlossariesWarning{Not in xindy mode --- ignoring \string#1}%
}
\newcommand*\glsnomakeindexwarning}[1]{%
 \GlossariesWarning{Not in makeindex mode --- ignoring \string#1}%
}
\ifglsxindy
 \edef\xdyattributes{\string"default\string"}%
\fi
\ifglsxindy
 \edef\xdyattributelist{}%
\fi
\ifglsxindy
 \def\xdylocref{}
\fi
\newcommand*\@gls@ifinlist}[4]{%
 \def\@do@ifinlist##1,#1,##2\end@doifinlist{%
 \def\@gls@listsuffix{##2}%
 \ifx\@gls@listsuffix\@empty
 #4%
 \else
 #3%
 \fi
 }%
 \@do@ifinlist,#2,#1,\end@doifinlist
}
\ifglsxindy
 \newcommand*\@xdycounters{\glscounter}
 \newcommand*\GlsAddXdyCounters[1]{%
 \@for\@gls@ctr:=#1\do{%
 \edef\@do@addcounter{%
 \noexpand\@gls@ifinlist{\@gls@ctr}{\@xdycounters}{}%
 {%
 \noexpand\edef\noexpand\@xdycounters{\@xdycounters,%
 \noexpand\@gls@ctr}%
 }%
 }%
 \@do@addcounter
 }
 }
 \@onlypremakeg\GlsAddXdyCounters
\else
 \newcommand*\GlsAddXdyCounters[1]{%
 \glsnoindeywarning\GlsAddXdyAttribute

```

```

}
\fi
\newcommand*\@disabled@glssaddxdycounters{%
 \PackageError{glossaries}{\string\GlsAddXdyCounters\space
 can't be used after \string\GlsAddXdyAttribute}{Move all
 occurrences of \string\GlsAddXdyCounters\space before the first
 instance of \string\GlsAddXdyAttribute}%
}
\ifglxindy
\newcommand*\@glssaddxdyattribute[2]{%
 \edef\@xdyattributes{\@xdyattributes ^^J
 \string"#2#1\string"}%
 \expandafter\toks@\expandafter{\@xdylocref}%
 \edef\@xdylocref{\the\toks@ ^^J%
 (markup-locref
 :open \string"\glstildechar n%
 \expandafter\string\csname glsX#2X#1\endcsname
 \string" ^^J
 :close \string"\string" ^^J
 :attr \string"#2#1\string")}%
 \expandafter\gdef\csname glsX#2X#1\endcsname##1##2{%
 \setentrycounter[##1][##2]\csname #1\endcsname{##2}%
 }%
}
\newcommand*\GlsAddXdyAttribute[1]{%
 \ifx\@xdyattributelist\@empty
 \edef\@xdyattributelist{#1}%
 \else
 \edef\@xdyattributelist{\@xdyattributelist,#1}%
 \fi
 \edef\@xdyattributes{\@xdyattributes ^^J
 \string"#1\string"}%
 \for\@this@counter:=\@xdycounters\do{%
 \protected@edef\gls@do@addxdyattribute{%
 \noexpand\@glssaddxdyattribute{#1}{\@this@counter}%
 }
 \gls@do@addxdyattribute
 }%
 \let\GlsAddXdyCounters\@disabled@glssaddxdycounters
}
\@onlypremakeg\GlsAddXdyAttribute
\else
\newcommand*\GlsAddXdyAttribute[1]{%
 \glsnoindeywarning\GlsAddXdyAttribute}
\fi
\ifglxindy
\newcommand*{\@gls@addpredefinedattributes}{%
 \GlsAddXdyAttribute{glsnumberformat}
 \GlsAddXdyAttribute{textrm}
 \GlsAddXdyAttribute{textsf}

```

```

\GlsAddXdyAttribute{texttt}
\GlsAddXdyAttribute{textbf}
\GlsAddXdyAttribute{textmd}
\GlsAddXdyAttribute{textit}
\GlsAddXdyAttribute{textup}
\GlsAddXdyAttribute{textsl}
\GlsAddXdyAttribute{textsc}
\GlsAddXdyAttribute{emph}
\GlsAddXdyAttribute{glshypernumber}
\GlsAddXdyAttribute{hyperrm}
\GlsAddXdyAttribute{hypersf}
\GlsAddXdyAttribute{hypertt}
\GlsAddXdyAttribute{hyperbf}
\GlsAddXdyAttribute{hypermd}
\GlsAddXdyAttribute{hyperit}
\GlsAddXdyAttribute{hyperup}
\GlsAddXdyAttribute{hypersl}
\GlsAddXdyAttribute{hypersc}
\GlsAddXdyAttribute{hyperemph}
\GlsAddXdyAttribute{glsignore}
}
\else
\let\@gls@addpredefinedattributes\relax
\fi
\def\@xdyuseralphabets{}
\ifglxindy
\newcommand*{\GlsAddXdyAlphabet}[2]{%
\edef\@xdyuseralphabets{%
\@xdyuseralphabets ~^J
(define-alphabet "#1" (#2))}}
\else
\newcommand*{\GlsAddXdyAlphabet}[2]{%
\glsnoxywarning\GlsAddXdyAlphabet}
\fi
\ifglxindy
\newcommand*{\@gls@xdy@locationlist}{%
roman-page-numbers,%
Roman-page-numbers,%
arabic-page-numbers,%
alpha-page-numbers,%
Alpha-page-numbers,%
Appendix-page-numbers,%
arabic-section-numbers%
}
\protected@edef\@gls@roman{\@roman{0}\string"
\string"roman-numbers-lowercase\string" :sep \string"}%
\@onelevel@sanitize\@gls@roman
\edef\@gls@tmp{\string" \string"roman-numbers-lowercase\string"
:sep \string"}%
\@onelevel@sanitize\@gls@tmp

```

```

\ifx\@gls@tmp\@gls@roman
 \expandafter
 \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
 \string"roman-numbers-lowercase\string"%
 }%
\else
 \expandafter
 \edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{
 :sep \string"\@gls@roman\string"%
 }%
\fi
\expandafter\def\csname @gls@xdy@Lclass@Roman-page-numbers\endcsname{%
 \string"roman-numbers-uppercase\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@arabic-page-numbers\endcsname{%
 \string"arabic-numbers\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@alpha-page-numbers\endcsname{%
 \string"alpha\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Alpha-page-numbers\endcsname{%
 \string"ALPHA\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Appendix-page-numbers\endcsname{%
 \string"ALPHA\string"
 :sep \string"\@gls@Alphacompositor\string"
 \string"arabic-numbers\string"%
}
\expandafter\def\csname @gls@xdy@Lclass@arabic-section-numbers\endcsname{%
 \string"arabic-numbers\string"
 :sep \string"\glscompositor\string"
 \string"arabic-numbers\string"%
}%
\def\@xdyuserlocationdefs{}
\def\@xdyuserlocationnames{}
\fi
\ifglxindy
 \newcommand\@xdycrossrefhook{}
\fi
\ifglxindy
 \newcommand*\GlsAddXdyLocation}[3][[]]{%
 \def\@gls@tmp[#1]{%
 \ifx\@gls@tmp\@empty
 \edef\@xdyuserlocationdefs{%
 \@xdyuserlocationdefs ^^J%
 (define-location-class \string"#2\string"^^J\space\space
 \space(:sep \string"{}\glsopenbrace\string" #3
 :sep \string"\glsclosebrace\string"))
 }%
 \else

```

```

\edef\@xdyuserlocationdefs{%
 \@xdyuserlocationdefs ^^J%
 (define-location-class \string"#2\string"^^J\space\space
 \space(:sep "\glsoopenbrace"
 #1
 :sep "\glsclosebrace\glsoopenbrace" #3
 :sep "\glsclosebrace"))
}%
\fi
\edef\@xdyuserlocationnames{%
 \@xdyuserlocationnames^^J\space\space\space
 \string"#2\string"%
}
\@onlypremakeg\GlsAddXdyLocation
\else
 \newcommand*\GlsAddXdyLocation[2]{%
 \glsnoinindywarning\GlsAddXdyLocation}
\fi
\ifglsxindy
 \def\@xdylocationclassorder{^^J\space\space\space
 \string"roman-page-numbers\string"^^J\space\space\space
 \string"arabic-page-numbers\string"^^J\space\space\space
 \string"arabic-section-numbers\string"^^J\space\space\space
 \string"alpha-page-numbers\string"^^J\space\space\space
 \string"Roman-page-numbers\string"^^J\space\space\space
 \string"Alpha-page-numbers\string"^^J\space\space\space
 \string"Appendix-page-numbers\string"
 \@xdyuserlocationnames^^J\space\space\space
 \string"see\string"
 }
\fi
\ifglsxindy
 \newcommand*\GlsSetXdyLocationClassOrder[1]{%
 \def\@xdylocationclassorder{#1}}
\else
 \newcommand*\GlsSetXdyLocationClassOrder[1]{%
 \glsnoinindywarning\GlsSetXdyLocationClassOrder}
\fi
\ifglsxindy
 \def\@xdysortrules{}
\fi
\ifglsxindy
 \newcommand*\GlsAddSortRule[2]{%
 \expandafter\toks@\expandafter{\@xdysortrules}%
 \protected@edef\@xdysortrules{\the\toks@ ^^J
 (sort-rule \string"#1\string" \string"#2\string"))}%
 }
\else
 \newcommand*\GlsAddSortRule[2]{%
 \glsnoinindywarning\GlsAddSortRule}

```



```

\fi
\ifglxindy
 \def\@xdyrequiredstyles{tex}
\fi
\ifglxindy
 \newcommand*\GlsAddXdyStyle[1]{%
 \edef\@xdyrequiredstyles{\@xdyrequiredstyles,#1}}%
\else
 \newcommand*\GlsAddXdyStyle[1]{%
 \glsnoinindywarning\GlsAddXdyStyle}
\fi
\ifglxindy
 \newcommand*\GlsSetXdyStyles[1]{%
 \edef\@xdyrequiredstyles{#1}}
\else
 \newcommand*\GlsSetXdyStyles[1]{%
 \glsnoinindywarning\GlsSetXdyStyles}
\fi
\def\@xdy@language#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyLanguage[2][\glsdefaulttype]{%
 \ifglossaryexists{#1}{%
 \expandafter\def\csname @xdy@#1@language\endcsname{#2}%
 }{%
 \PackageError{glossaries}{Can't set language type for
 glossary type '#1' --- no such glossary}{%
 You have specified a glossary type that doesn't exist}}
\else
 \newcommand*\GlsSetXdyLanguage[2][]{%
 \glsnoinindywarning\GlsSetXdyLanguage}
\fi
\def\@gls@codepage#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyCodePage[1]{%
 \renewcommand*\@gls@codepage{#1}%
 }
 \AtBeginDocument{%
 \ifx\@gls@codepage\@empty
 \ifpackageloaded{fontspec}{\def\@gls@codepage{utf8}}{}%
 \fi
 }
\else
 \newcommand*\GlsSetXdyCodePage[1]{%
 \glsnoinindywarning\GlsSetXdyCodePage}
\fi
\ifglxindy
 \ifglx@xindy@glsnumbers
 \def\@xdy@lettergroups{(define-letter-group
 \string"glxnumbers\string"^^J\space\space\space
 :prefixes (\string"0\string" \string"1\string"

```

```

 \string"2\string" \string"3\string" \string"4\string"
 \string"5\string" \string"6\string" \string"7\string"
 \string"8\string" \string"9\string")^^J\space\space\space
 \@xdynumbergrouporder)}
\else
 \def\@xdylettergroups{}
\fi
\fi
\newcommand*\GlsAddLetterGroup[2]{%
 \expandafter\toks@\expandafter{\@xdylettergroups}%
 \protected@edef\@xdylettergroups{\the\toks@^^J%
 (define-letter-group \string"#1\string"^^J\space\space\space#2)}%
 }%
\newcommand*\forallglossaries}[3][\@glo@types]{%
 \@for#2:=#1\do{\ifx#2\@empty\else#3\fi}%
}

\newcommand*\forallacronyms}[2]{%
 \@for#1:=\@glsacronymlists\do{\ifx#1\@empty\else#2\fi}%
}

\newcommand*\forglsentries}[3][\glsdefaulttype]{%
 \protected@edef\@glo@list{\csname glolist@#1\endcsname}%
 \@for#2:=\@glo@list\do
 {%
 \ifdefempty{#2}{#3}%
 }%
}

\newcommand*\forallglsentries}[3][\@glo@types]{%
 \expandafter\forallglossaries\expandafter[#1]{\@@thisglo@}%
 {%
 \forglsentries[\@@thisglo@]{#2}{#3}%
 }%
}

\newcommand{\ifglossaryexists}{%
 \@ifstar\s@ifglossaryexists\@ifglossaryexists
}

\newcommand{\@ifglossaryexists}[3]{%
 \ifcsundef{@glo@type@#1@out}{#3}{#2}%
}

\newcommand{\s@ifglossaryexists}[3]{%
 \ifcsundef{glolist@#1}{#3}{#2}%
}

\newcommand*\glsdetoklabel}[1]{#1}
\newcommand*\ifglsentryexists}[3]{%
 \ifcsundef{glo@\glsdetoklabel{#1}@name}{#3}{#2}%
}

\newcommand*\ifglsused}[3]{%
 \ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}%
}

\newcommand*\glsdoifexists}[2]{%

```

```

\ifglentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}}%
}
\newcommand{\glsdoifnoexists}[2]{%
 \ifglentryexists{#1}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’ has already
 been defined}{}}{#2}%
}
\newcommand{\glsdoifexistsorwarn}[2]{%
 \ifglentryexists{#1}{#2}{%
 \GlossariesWarning{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}%
 }%
}
\newcommand{\glsdoifexistsordo}[3]{%
 \ifglentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}}%
 #3%
}%
}
\newcommand{\doifglossarynoexistsordo}[3]{%
 \ifglossaryexists*{#1}%
 {%
 \PackageError{glossaries}{Glossary type ‘#1’ already exists}{}%
 #3%
 }%
 {#2}%
}
\newrobustcmd{\ifglshaschildren}[3]{%
 \glsdoifexists{#1}%
 {%
 \def\do@glshaschildren{#3}%
 \protected@edef\@gls@thislabel{\glsdetoklabel{#1}}%
 \expandafter\for@glentries\expandafter
 [\csname glo@\@gls@thislabel @type\endcsname]
 {\glo@label}%
 {%
 \letcs@glo@parent{glo@\glo@label @parent}%
 \ifdefequal\@gls@thislabel\glo@parent
 {%
 \def\do@glshaschildren{#2}%
 \@endfortrue
 }%
 }%
 }%
 }%
 \do@glshaschildren
}

```

```

 }%
 }
 \newcommand{\ifglshasparent}[3]{%
 \glsdoifexists{#1}%
 {%
 \ifcsemtyp{glo@\glsdetoklabel{#1}@parent}{#3}{#2}%
 }%
 }
 \newcommand*\ifglshasdesc}[3]{%
 \ifcsemtyp{glo@\glsdetoklabel{#1}@desc}%
 {#3}%
 {#2}%
 }
 \newcommand*\ifglshasdescsuppressed}[3]{%
 \ifcsequal{glo@\glsdetoklabel{#1}@desc}{@no@post@desc}%
 {#2}%
 {#3}%
 }
 \newrobustcmd*\ifglshassymbol}[3]{%
 \letcs{\@glo@symbol}{glo@\glsdetoklabel{#1}@symbol}%
 \ifdefempty\@glo@symbol
 {#3}%
 {%
 \ifdefequal\@glo@symbol\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
 \newrobustcmd*\ifglshaslong}[3]{%
 \letcs{\@glo@long}{glo@\glsdetoklabel{#1}@long}%
 \ifdefempty\@glo@long
 {#3}%
 {%
 \ifdefequal\@glo@long\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
 \newrobustcmd*\ifglshasshort}[3]{%
 \letcs{\@glo@short}{glo@\glsdetoklabel{#1}@short}%
 \ifdefempty\@glo@short
 {#3}%
 {%
 \ifdefequal\@glo@short\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
 \newcommand{\ifglsfieldvoid}[4]{\ifcsvoid{glo@\glsdetoklabel{#2}@#1}{#3}{#4}}
 \newrobustcmd*\ifglshasfield}[4]{%

```

```

\glsdoifexists{#2}%
{%
 \letcs{\@glo@thisvalue}{glo@glstetoklabel{#2}@#1}%
 \ifdef\@glo@thisvalue
 {%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 }%
 \ifdequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 {%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
}%
}%
{%
 \@gls@fetchfield{\@gls@thisfield}{#1}%
 \ifdef\@gls@thisfield
 {%
 \letcs{\@glo@thisvalue}{glo@glstetoklabel{#2}@ \@gls@thisfield}%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 {%
 \ifdequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
}%
}%
{%
 \GlossariesWarning{Unknown entry field '#1'}%
 #4%
}%
}%
}
\newcommand*{\glscurrentfieldvalue}{}
\newcommand*{\@glo@types}{,}
\newcommand*{\@gls@provide@newglossary}{%

```

```

\protected@write\@auxout{}\string\providecommand\string\@newglossary[4]{}%
\let\@gls@provide@newglossary\relax
}
\newcommand*{\@gls@defaulttype}{\glsdefaulttype}
\newcommand*{\defglsentryfmt}[2][\glsdefaulttype]{%
\protected@edef\@glo@tmp{#1}%
\ifx\@glo@tmp\@gls@defaulttype
\GlossariesWarning{\string\defglsentryfmt\space attempting to set
a display style for \string\glsdefaulttype\space but there
doesn't seem to be a default glossary. If you have used
'nomain', you need to define an alternative glossary}%
\else
\csgdef{gls@\@glo@tmp @entryfmt}{#2}%
\fi
}
\newcommand*{\gls@doentryfmt}[1]{\csuse{gls@#1@entryfmt}}
\newcommand*{\@gls@forbidtext}[1]{%
\ifboolexpr{test {\ifdefstring{#1}{tex}}
or test {\ifdefstring{#1}{TEX}}}
{%
\def#1{nottex}%
\PackageError{glossaries}%
{Forbidden '.tex' extension replaced with '.nottex'}%
{I'm sorry, I can't allow you to do something so reckless.\MessageBreak
Don't use '.tex' as an extension for a temporary file.}%
}%
}%
}%
}
\newcommand*{\gls@gobbleopt}{\new@ifnextchar[{\@gls@gobbleopt}{}]}
\def\@gls@gobbleopt[#1]{
\newcommand*{\newglossary}\@ifstar\s@newglossary\ns@newglossary}
\newcommand*{\s@newglossary}[2]{%
\ns@newglossary[#1-glg]{#1}{#1-gls}{#1-glo}{#2}%
}
\newcommand*{\ns@newglossary}[5][glg]{%
\doifglossarynoexistsordo{#2}%
{%
\ifundef\glsdefaulttype
{%
\gdef\glsdefaulttype{#2}%
}{}%
\toks@{#2}\protected@edef\@glo@types{\@glo@types\the\toks@,}%
\expandafter\gdef\csname glolist@#2\endcsname{,}%
\expandafter\edef\csname @glotype@#2@log\endcsname{#1}%
\expandafter\edef\csname @glotype@#2@in\endcsname{#3}%
\expandafter\edef\csname @glotype@#2@out\endcsname{#4}%
\expandafter\@gls@forbidtext\csname @glotype@#2@log\endcsname
\expandafter\@gls@forbidtext\csname @glotype@#2@in\endcsname
\expandafter\@gls@forbidtext\csname @glotype@#2@out\endcsname

```

```

\expandafter\def\csname @glotype@#2@title\endcsname{#5}%
\@gls@provide@newglossary
\protected@write\@auxout{}\string\@newglossary{#2}{#1}{#3}{#4}}%
\ifcsundef{gls@#2@entryfmt}%
{%
 \defglsentryfmt[#2]{\glsentryfmt}%
}%
{}%
\@gls@defsortcount{#2}%
\@ifnextchar[{\@gls@setcounter{#2}}%
 {\@gls@setcounter{#2}[\glscounter]}%
}%
{%
 \gls@gobbleopt
}%
}
\newcommand*\altnewglossary}[3]{%
 \newglossary[#2-glg]{#1}{#2-gls}{#2-glo}{#3}%
}
\@onlypreamble{\newglossary}
\@onlypremakeg\newglossary
\newcommand*\@newglossary}[4]{%
\def\@gls@setcounter#1[#2]{%
 \expandafter\def\csname @glotype@#1@counter\endcsname{#2}%
 \ifglsxindy
 \GlsAddXdyCounters{#2}%
 \fi
}
\newcommand*\@gls@getcounter}[1]{%
 \csname @glotype@#1@counter\endcsname
}
\glsdefmain
\@gls@do@acronymsdef
\@gls@do@symbolsdef
\@gls@do@numbersdef
\@gls@do@indexdef
\newcommand*\newignoredglossary}[1]{%
 \ifdefempty\@ignored@glossaries
 {%
 \protected@edef\@ignored@glossaries{#1}%
 }%
 {%
 \protected@eappto\@ignored@glossaries{,#1}%
 }%
 \csgdef{glolist@#1}{,}%
 \ifcsundef{gls@#1@entryfmt}%
 {%
 \defglsentryfmt[#1]{\glsentryfmt}%
 }%
 {}%
}

```

```

\ifdefempty\@gls@nohyperlist
{%
 \renewcommand*\@gls@nohyperlist}{#1}%
}%
{%
 \protected@eappto\@gls@nohyperlist{, #1}%
}%
}
\newcommand*\@ignored@glossaries{}
\newcommand*\@ifignoredglossary}[3]{%
 \protected@edef\@gls@igtype{#1}%
 \expandafter\DTLifinlist\expandafter
 {\@gls@igtype}{\@ignored@glossaries}{#2}{#3}%
}
\define@key{glossentry}{name}{%
\def\@glo@name{#1}%
}
\define@key{glossentry}{description}{%
\def\@glo@desc{#1}%
}
\define@key{glossentry}{descriptionplural}{%
\def\@glo@descplural{#1}%
}
\define@key{glossentry}{sort}{%
\def\@glo@sort{#1}}
\define@key{glossentry}{text}{%
\def\@glo@text{#1}%
}
\define@key{glossentry}{plural}{%
\def\@glo@plural{#1}%
}
\define@key{glossentry}{first}{%
\def\@glo@first{#1}%
}
\define@key{glossentry}{firstplural}{%
\def\@glo@firstplural{#1}%
}
\newcommand*\@gls@default@value{\relax}
\define@key{glossentry}{symbol}{%
\def\@glo@symbol{#1}%
}
\define@key{glossentry}{symbolplural}{%
\def\@glo@symbolplural{#1}%
}
\define@key{glossentry}{type}{%
\def\@glo@type{#1}}
\define@key{glossentry}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%

```



```

 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
 {%
 \def\@glo@counter{#1}%
 }%
}
\define@key{glossentry}{see}{%
 \gls@set@xr@key{see}{\@glo@see}{#1}%
}
\newcommand*\@gls@set@xr@key[3]{%
 \renewcommand*\@gls@xr@key{#1}%
 \gls@checkseeallowed
 \def#2{#3}%
 \@glo@seeautonumberlist
}
\newcommand*\@gls@xr@key{see}
\newcommand*\@gls@checkseeallowed{%
 \@gls@see@noindex
}
\newcommand*\@gls@checkseeallowed@preambleonly{%
 \GlossariesWarning
 {‘\@gls@xr@key’ key doesn’t have any effect when used in the document
 environment. Move the definition to the preamble
 after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@key{glossentry}{parent}{%
 \def\@glo@parent{#1}}
\define@choicekey{glossentry}{nonumberlist}%
[\@gls@nonumberlist@val\@gls@nonumberlist@nr]{true,false}[true]%
{%
 \ifcase\@gls@nonumberlist@nr\relax
 \def\@glo@prefix{\@glsnonextpages}%
 \@gls@savenonumberlist{true}%
 \else
 \def\@glo@prefix{\@glsnextpages}%
 \@gls@savenonumberlist{false}%
 \fi
}
\newcommand*\@gls@noidx@nonumberlist[1]{%
 \cslet\@glo@\@glo@label @prenumberlist}\@glo@prefix
}%
\newcommand{\@glsnoidxprenumberlist}[1]{%
 \csuse{glo@\@glsdetoklabel{#1}@prenumberlist}}
\newcommand*\@gls@savenonumberlist[1]{%
}
\newcommand*\@gls@initnonumberlist{%
}

```

```

\newcommand*{\@gls@storenonumberlist}[1]{
\newcommand*{\@gls@enablesavenonumberlist}{%
 \renewcommand*{\@gls@initnonumberlist}{%
 \undef\@glo@nonumberlist
 }%
 \renewcommand*{\@gls@savenonumberlist}[1]{%
 \def\@glo@nonumberlist{##1}%
 }%
 \renewcommand*{\@gls@storenonumberlist}[1]{%
 \ifdef\@glo@nonumberlist
 {%
 \cslet{glo@glsdetoklabel{##1}@nonumberlist}{\@glo@nonumberlist}%
 }%
 {}%
 }%
 \appto\@gls@keymap{,{nonumberlist}{nonumberlist}}%
}
\define@key{glossentry}{user1}{%
 \def\@glo@useri{#1}%
}
\define@key{glossentry}{user2}{%
 \def\@glo@userii{#1}%
}
\define@key{glossentry}{user3}{%
 \def\@glo@useriii{#1}%
}
\define@key{glossentry}{user4}{%
 \def\@glo@useriv{#1}%
}
\define@key{glossentry}{user5}{%
 \def\@glo@userv{#1}%
}
\define@key{glossentry}{user6}{%
 \def\@glo@uservi{#1}%
}
\define@key{glossentry}{short}{%
 \def\@glo@short{#1}%
}
\define@key{glossentry}{shortplural}{%
 \def\@glo@shortpl{#1}%
}
\define@key{glossentry}{long}{%
 \def\@glo@long{#1}%
}
\define@key{glossentry}{longplural}{%
 \def\@glo@longpl{#1}%
}
\newcommand*{\@gls@noname}{%
 \PackageError{glossaries}{name key required in
 \string\newglossaryentry\space for entry '\@glo@label'}{You

```

```

haven't specified the entry name}}
\newcommand*\@glsnodesc{%
 \PackageError{glossaries}
 {%
 description key required in \string\newglossaryentry\space
 for entry '\@glo@label'%
 }%
 {%
 You haven't specified the entry description%
 }%
}%
\newcommand*\@gls@missingnumberlist}[1]{%
 ??%
 \ifglssavenumberlist
 \GlossariesWarning{Missing number list for entry '#1'.
 Maybe makeglossaries + rerun required}%
 \else
 \PackageError{glossaries}%
 {Package option 'savenumberlist=true' required}%
 {%
 You must use the 'savenumberlist' package option
 to reference location lists.%
 }%
 \fi
}
\newcommand*\@gls@defaultsort}{\@glo@name}
\newcount\gls@level
\newcommand*\@gls@noexpand@field}[3]{%
 \expandafter\global\expandafter
 \let\csname glo@#1@#2\endcsname#3%
}
\newcommand*\@gls@noexpand@fields}[4]{%
 \ifcsdef{gls@assign@#3@field}
 {%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
 }%
 {%
 \csuse{gls@assign@#3@field}{#2}{#4}%
 }%
 }%
 {%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \@gls@noexpand@field{#2}{#3}{\@gls@value}%
 }%
 {%

```

```

 \@@gls@noexpand@field{#2}{#3}{#4}%
 }%
}
\newcommand{\@@gls@expand@field}[3]{%
\expandafter
\protected@xdef\csname glo@#1@#2\endcsname{#3}%
}
\newcommand{\@gls@expand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
\ifdefequal{#4}{\@gls@default@value}%
{%
\edef\@gls@value{\expandonce{#1}}%
\csuse{gls@assign@#3@field}{#2}{\@gls@value}%
}%
{%
\expandafter\@gls@startswithexpandonce#4\relax\relax\gls@endcheck
{%
\@@gls@expand@field{#2}{#3}{#4}%
}%
{%
\csuse{gls@assign@#3@field}{#2}{#4}%
}%
}%
}%
\ifdefequal{#4}{\@gls@default@value}%
{%
\@@gls@expand@field{#2}{#3}{#1}%
}%
{%
\@@gls@expand@field{#2}{#3}{#4}%
}%
}%
}
\def\@gls@expandonce{\expandonce}
\def\@gls@startswithexpandonce#1#2\gls@endcheck#3#4{%
\def\@gls@tmp{#1}%
\ifdefequal{\@gls@expandonce}{\@gls@tmp}{#3}{#4}%
}
\let\gls@assign@field\@gls@expand@fields
\newcommand*\{gls@expandfields}{%
\let\gls@assign@field\@gls@expand@fields
}
\newcommand*\{gls@noexpandfields}{%
\let\gls@assign@field\@gls@noexpand@fields
}
\newrobustcmd{\newglossaryentry}[2]{%
\glsdoifnoexists{#1}%

```

```

 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
 }
\newcommand*\gls@defdocnewglossaryentry{%
 \let\newglossaryentry\new@glossaryentry
}
\newrobustcmd{\provideglossaryentry}[2]{%
 \ifglsentryexists{#1}%
 {%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
 }
}
\@onlypreamble{\provideglossaryentry}
\newcommand*\gls@glsdefs@labellist{}
\newcommand*\gls@glsdefs@addlabel}[1]{\listxadd{\gls@glsdefs@labellist}{#1}}
\newcommand*\gls@docdef@labellist{}
\newcommand*\gls@docdef@addlabel}[1]{\listxadd{\gls@docdef@labellist}{#1}}
\newrobustcmd{\new@glossaryentry}[2]{%
 \ifundef\@gls@deffile
 {%
 \global\newwrite\@gls@deffile
 \immediate\openout\@gls@deffile=\jobname.glsdefs
 }%
 {%
 \ifglsentryexists{#1}%
 {%
 \xifinlist{#1}{\gls@docdef@labellist}%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in the
 document environment (ignoring new definition)}%
 }%
 {%
 \xifinlist{#1}{\gls@glsdefs@labellist}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 \gls@docdef@addlabel{#1}%
 \@gls@writedef{#1}%
 }%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in
 the preamble (in which case remove the duplicate definition)
 or you have just updated to glossaries.sty
 v4.47 (in which case delete ‘\jobname.glsdefs’)}%
 }%
 }%
 }%
 }%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}

```

```

 \gls@docdef@addlabel{#1}%
 \@gls@writedef{#1}%
 }%
}
\AtBeginDocument{\gls@begindocdefs}
\AtEndDocument{\ifdef\@gls@deffile{\closeout\@gls@deffile}{}}
\newcommand*\gls@begindocdefs{%
 \gls@enablesavenonumberlist
 \edef\@gls@restreat{\noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
 \makeatletter
 \InputIfFileExists{\jobname.glsdefs}{-}{-}%
 \@gls@restreat
 \undef\@gls@restreat
 \gls@defdocnewglossaryentry
}
\newcommand*\glsdefs@newdocentry}[2]{%
 \ifglsentryexists{#1}%
 {\GlossariesWarning{entry ‘#1’ has already been defined in the preamble
 (if you have moved the definition there from the document
 environment, delete \jobname.glsdefs)}}%
 {%
 \gls@glsdefs@addlabel{#1}%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\newcommand*\@gls@writedef}[1]{%
 \immediate\write\@gls@deffile
 {%
 \string\glsdefs@newdocentry{\glsdetoklabel{#1}}\glspercentchar^^J%
 \expandafter\@gobble\string\{\glspercentchar%
 }%
 \@for\@gls@map:=\@gls@keymap\do
 {%
 \letcs\glo@value{glo@\glsdetoklabel{#1}}\expandafter\@secondoftwo\@gls@map}%
 \ifdef\glo@value
 {%
 \@onelevel@sanitize\glo@value
 \immediate\write\@gls@deffile
 {%
 \expandafter\@firstoftwo\@gls@map
 =\expandafter\@gobble\string\{\glo@value\expandafter\@gobble\string\},%
 \glspercentchar
 }%
 }%
 }%
}
\gls@writedefhook
\immediate\write\@gls@deffile
{%
 \glspercentchar^^J%
}

```

```

 \expandafter\@gobble\string\}\glspercentchar^^J%
 }%
}
\newcommand*{\@gls@keymap}{%
 {name}{name},%
 {sort}{sortvalue},% unescaped sort value
 {type}{type},%
 {first}{first},%
 {firstplural}{firstpl},%
 {text}{text},%
 {plural}{plural},%
 {description}{desc},%
 {descriptionplural}{descplural},%
 {symbol}{symbol},%
 {symbolplural}{symbolplural},%
 {user1}{useri},%
 {user2}{userii},%
 {user3}{useriii},%
 {user4}{useriv},%
 {user5}{userv},%
 {user6}{uservi},%
 {long}{long},%
 {longplural}{longpl},%
 {short}{short},%
 {shortplural}{shortpl},%
 {counter}{counter},%
 {parent}{parent}%
}
\newcommand*{\@gls@fetchfield}[2]{%
 \edef\@gls@thisval{#2}%
 \@for\@gls@map:=\@gls@keymap\do{%
 \edef\@this@key{\expandafter\@firstoftwo\@gls@map}%
 \ifdefequal{\@this@key}{\@gls@thisval}%
 {%
 \edef#1{\expandafter\@secondoftwo\@gls@map}%
 \@endfortrue
 }%
 }%
}%
}
\newcommand*{\glsaddstoragekey}{\@ifstar\@sglsaddstoragekey\@glsaddstoragekey}
\newcommand*{\@sglsaddstoragekey}[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
}%
}

```

```

\@glsaddstoragekey{#1}%
}
\newcommand*{\@glsaddstoragekey}[3]{%
\key@ifundefined{glossentry}{#1}%
{%
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
\appto\@newglossaryentryposthook{%
\letcs{\@glo@tmp}{@glo@#1}%
\gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
}%
{%
\PackageError{glossaries}{Key ‘#1’ already exists}{}%
}%
}
\newcommand*{\glsaddkey}{\@ifstar\@sglsaddkey\@glsaddkey}
\newcommand*{\@sglsaddkey}[1]{%
\key@ifundefined{glossentry}{#1}%
{%
\expandafter\newcommand\expandafter*\expandafter
{\csname gls@assign@#1@field\endcsname}[2]{%
\@gls@expand@field{##1}{#1}{##2}%
}%
}%
}%
\@glsaddkey{#1}%
}
\newcommand*{\@glsaddkey}[7]{%
\key@ifundefined{glossentry}{#1}%
{%
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{, {#1}{#1}}%
\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
\appto\@newglossaryentryposthook{%
\letcs{\@glo@tmp}{@glo@#1}%
\gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
\newcommand*{#4}[1]{\@Glsentryfield{##1}{#1}}%
\ifcsdef{@gls@user@#1@}%
{%
\PackageError{glossaries}%
{Can’t define ‘\string#5’ as helper command
‘\expandafter\string\csname @gls@user@#1@\endcsname’ already exists}%
}%
}%
}%

```



```

\expandafter\newcommand\expandafter*\expandafter
 {\csname @gls@user@#1\endcsname}[2][]{%
 \new@ifnextchar[%
 {\csuse{@gls@user@#1@}{##1}{##2}}%
 {\csuse{@gls@user@#1@}{##1}{##2}[]}}%
\csdef{@gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#3{##2}##3}%
}%
\newrobustcmd*{#5}{%
 \expandafter\@gls@hyp@opt\csname @gls@user@#1\endcsname}%
}%
\ifcsdef{@Gls@user@#1@}{%
 {%
 \PackageError{glossaries}{%
 {Can't define '\string#6' as helper command
 '\expandafter\string\csname @Gls@user@#1\endcsname' already exists}}%
 }%
 }%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @Gls@user@#1\endcsname}[2][]{%
 \new@ifnextchar[%
 {\csuse{@Gls@user@#1@}{##1}{##2}}%
 {\csuse{@Gls@user@#1@}{##1}{##2}[]}}%
\csdef{@Gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#4{##2}##3}%
}%
\newrobustcmd*{#6}{%
 \expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
}%
\ifcsdef{@GLS@user@#1@}{%
 {%
 \PackageError{glossaries}{%
 {Can't define '\string#7' as helper command
 '\expandafter\string\csname @GLS@user@#1\endcsname' already exists}}%
 }%
 }%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @GLS@user@#1\endcsname}[2][]{%
 \new@ifnextchar[%
 {\csuse{@GLS@user@#1@}{##1}{##2}}%
 {\csuse{@GLS@user@#1@}{##1}{##2}[]}}%
\csdef{@GLS@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{\glsuppercase{#3{##2}##3}}%
}%
\newrobustcmd*{#7}{%
 \expandafter\@gls@hyp@opt\csname @GLS@user@#1\endcsname}%
}%
\glsmfuaddmap{#3}{#4}%

```

```

 \glsmfuaddmap{#5}{#6}%
 \glsmfublocker{#7}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#1’ already exists}{}%
 }%
}
\newrobustcmd{\glsfieldxdef}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \protected@csxdef{glo@\@glo@label @#2}{#3}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newrobustcmd{\glsfieldedef}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \protected@csedef{glo@\@glo@label @#2}{#3}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newrobustcmd{\glsfieldgdef}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\gdef\csname glo@\@glo@label @#2\endcsname{#3}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newrobustcmd{\glsfieldddef}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%

```

```

\ifcsdef{glo@\@glo@label @#2}%
{%
 \expandafter\def\csname glo@\@glo@label @#2\endcsname{#3}%
}%
{%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
}%
}%
}
\newrobustcmd{\glsfieldfetch}[3]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \letcs#3{glo@\@glo@label @#2}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newcommand*\glsunexpandedfieldvalue[2]{%
 \ifcsname glo@\glsdetoklabel{#1}@#2\endcsname
 \expandafter\expandonce\csname glo@\glsdetoklabel{#1}@#2\expandafter\endcsname
 \fi
}
\newrobustcmd{\ifglsfieldeq}[5]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \ifcsstring{glo@\@glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}%
}
\newrobustcmd{\ifglsfieldddefeq}[5]{%
\glsdoifexists{#1}%
{%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\ifdefstrequal\csname glo@\@glo@label @#2\endcsname{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}

```

```

 }%
 }%
}
\newcommand{\ifglsfieldcseq}[5]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\glo@label @#2}%
 {%
 \ifcsstrequal{glo@\glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
 }%
}
\newcommand*{\gls.writedefhook}{}
\newcommand*{\gls@assign@desc}[1]{%
 \gls@assign@field{#1}{desc}{\@glo@desc}%
 \gls@assign@field{\@glo@desc}{#1}{descplural}{\@glo@descplural}%
}
\newcommand{\longnewglossaryentry}[3]{%
 \glsdoifnoexists{#1}%
 {%
 \bgroup
 \let\@org@newglossaryentryprehook\@newglossaryentryprehook
 \long\def\@newglossaryentryprehook{%
 \long\def\@glo@desc{#3\leavevmode\unskip\nopostdesc}%
 \@org@newglossaryentryprehook
 }%
 \renewcommand*{\gls@assign@desc}[1]{%
 \global\cslet{glo@\glsdetoklabel{#1}@desc}{\@glo@desc}%
 \global\cslet{glo@\glsdetoklabel{#1}@descplural}{\@glo@desc}%
 }
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\@onlypreamble{\longnewglossaryentry}
\newcommand{\longprovideglossaryentry}[3]{%
 \ifglsentryexists{#1}{%
 {\longnewglossaryentry{#1}{#2}{#3}}%
 }
}
\@onlypreamble{\longprovideglossaryentry}
\newcommand{\gls@defglossaryentry}[2]{%
 \let\GlsSetQuote\gls@nosetquote
 \protected@edef\glo@label{\glsdetoklabel{#1}}%
 \let\glslabel\@glo@label
 \let\@glo@name\@glsname
 \let\@glo@desc\@glsnodesc

```

```

\let\@glo@descplural\@gls@default@value
\let\@glo@type\@gls@default@value
\let\@glo@symbol\@gls@default@value
\let\@glo@symbolplural\@gls@default@value
\let\@glo@text\@gls@default@value
\let\@glo@plural\@gls@default@value
\let\@glo@first\@gls@default@value
\let\@glo@firstplural\@gls@default@value
\let\@glo@sort\@gls@default@value
\let\@glo@counter\@gls@default@value
\def\@glo@see{ }%
\def\@glo@parent{ }%
\def\@glo@prefix{ }%
\@gls@initnonumberlist
\def\@glo@useri{ }%
\def\@glo@userii{ }%
\def\@glo@useriii{ }%
\def\@glo@useriv{ }%
\def\@glo@userv{ }%
\def\@glo@uservi{ }%
\def\@glo@short{ }%
\def\@glo@shortpl{ }%
\def\@glo@long{ }%
\def\@glo@longpl{ }%
\@newglossaryentryprehook
\setkeys{glossentry}{#2}%
\ifundef\glsdefaulttype
{%
 \PackageError{glossaries}%
 {No default glossary type (have you used ‘nomain’ by mistake?)}%
 {If you use package option ‘nomain’ you must define
 a new glossary before you can define entries}%
}%
}%
\gls@assign@field{\glsdefaulttype}{\@glo@label}{type}{\@glo@type}%
\protected@edef\@glo@type{\glsentrytype{\@glo@label}}%
\ifcsundef{glo@list@\@glo@type}%
{%
 \PackageError{glossaries}%
 {Glossary type ‘\@glo@type’ has not been defined}%
 {You need to define a new glossary type, before making entries
 in it}%
}%
\ifignoredglossary\@glo@type
{%
 \ifx\@glo@desc\@glsnodesc
 \let\@glo@desc\@empty
 \fi
}%

```

```

 {%
 }%
 \protected@edef\@glo@list@\csname glo@list@\@glo@type\endcsname}%
 \expandafter\protected@xdef\csname glo@list@\@glo@type\endcsname{%
 \@glo@list@\@glo@label},}%
}%
\gls@level=0\relax
\ifx\@glo@parent\@empty
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
\else
 \ifdefequal\@glo@label\@glo@parent%
 {%
 \PackageError{glossaries}{Entry ‘\@glo@label’ can’t be its own parent}{}%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
 }%
 {%
 \ifglsentryexists{\@glo@parent}%
 {%
 \expandafter\protected@xdef\csname glo@\@glo@label @parent\endcsname{%
 \@glo@parent}%
 \gls@level=\csname glo@\@glo@parent @level\endcsname\relax
 \advance\gls@level by 1\relax
 \ifx\@glo@name\@gls@name
 \expandafter\let\expandafter\@glo@name
 \csname glo@\@glo@parent @name\endcsname
 \ifx\@glo@plural\@gls@default@value
 \expandafter\let\expandafter\@glo@plural
 \csname glo@\@glo@parent @plural\endcsname
 \fi
 \fi
 }%
 {%
 \PackageError{glossaries}%
 {%
 Invalid parent ‘\@glo@parent’
 for entry ‘\@glo@label’ - parent doesn’t exist%
 }%
 {%
 Parent entries must be defined before their children%
 }%
 \def\@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
 }%
 }%
\fi
\expandafter\xdef\csname glo@\@glo@label @level\endcsname{\number\gls@level}%
\gls@assign@field{\@glo@name}{\@glo@label}{sortvalue}{\@glo@sort}%
\letcs\@glo@sort{glo@\@glo@label @sortvalue}%
\gls@assign@field{\@glo@name}{\@glo@label}{text}{\@glo@text}%

```

```

\expandafter\gls@assign@field\expandafter
 {\csname glo@\glo@label @text\endcsname\glspluralsuffix}%
 {\@glo@label}{plural}{\@glo@plural}%
\expandafter\gls@assign@field\expandafter
 {\csname glo@\glo@label @text\endcsname}%
 {\@glo@label}{first}{\@glo@first}%
\ifx\@glo@first\@gls@default@value
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\glo@label @plural\endcsname}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\else
 \expandafter\gls@assign@field\expandafter
 {\csname glo@\glo@label @first\endcsname\glspluralsuffix}%
 {\@glo@label}{firstpl}{\@glo@firstplural}%
\fi
\ifcsundef{@glo@type@\@glo@type @counter}%
{%
 \def\@glo@defaultcounter{\glscounter}%
}%
{%
 \letcs\@glo@defaultcounter{@glo@type@\@glo@type @counter}%
}%
\gls@assign@field{\@glo@defaultcounter}{\@glo@label}{counter}{\@glo@counter}%
\gls@assign@field{}{\@glo@label}{useri}{\@glo@useri}%
\gls@assign@field{}{\@glo@label}{userii}{\@glo@userii}%
\gls@assign@field{}{\@glo@label}{useriii}{\@glo@useriii}%
\gls@assign@field{}{\@glo@label}{useriv}{\@glo@useriv}%
\gls@assign@field{}{\@glo@label}{uservi}{\@glo@uservi}%
\gls@assign@field{}{\@glo@label}{servi}{\@glo@servi}%
\gls@assign@field{}{\@glo@label}{short}{\@glo@short}%
\gls@assign@field{}{\@glo@label}{shortpl}{\@glo@shortpl}%
\gls@assign@field{}{\@glo@label}{long}{\@glo@long}%
\gls@assign@field{}{\@glo@label}{longpl}{\@glo@longpl}%
\ifx\@glo@name\@gls@noname
 \@gls@noname
 \let\@glo@name\@gls@default@value
\fi
\gls@assign@field{}{\@glo@label}{name}{\@glo@name}%
\ifcsundef{glo@\glo@label @numberlist}%
{%
 \csxdef{glo@\glo@label @numberlist}{%
 \noexpand\@gls@missingnumberlist{\@glo@label}}%
}%
{%
 \@gls@storenonumberlist{\@glo@label}%
 \def\@glo@@desc{\@glo@first}%
 \ifx\@glo@desc\@glo@@desc
 \let\@glo@desc\@glo@first
 \fi
\ifx\@glo@desc\@gls@nodesc

```

```

 \@glsnodesc
 \let\@glsdesc\@gls@default@value
\fi
\gls@assign@desc{\@glo@label}%
\@gls@defsort{\@glo@type}{\@glo@label}%
\def\@glo@@symbol{\@glo@text}%
\ifx\@glo@symbol\@glo@@symbol
 \let\@glo@symbol\@glo@text
\fi
\gls@assign@field{\relax}{\@glo@label}{symbol}{\@glo@symbol}%
\expandafter
 \gls@assign@field\expandafter
 {csname glo@\@glo@label @symbol\endcsname}
 {\@glo@label}{symbolplural}{\@glo@symbolplural}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagfalse\endcsname{%
\noexpand\global
 \noexpand\let\expandafter\noexpand
 \csname ifglo@\@glo@label @flag\endcsname\noexpand\iffalse
}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagtrue\endcsname{%
\noexpand\global
 \noexpand\let\expandafter\noexpand
 \csname ifglo@\@glo@label @flag\endcsname\noexpand\iftrue
}%
\csname glo@\@glo@label @flagfalse\endcsname
\@glo@autosee
\ifignoredglossary\@glo@type
{%
 \csdef{glo@\@glo@label @index}{}%
}
{%
 \do@glo@storeentry{\@glo@label}%
}%
\@newglossaryentry@defcounters
\@newglossaryentryposthook
}
\newcommand*{\@glo@autosee}{%
\ifdefvoid\@glo@see{%
{%
 \protected@edef\@do@glssee{%
 \noexpand\@gls@fixbraces\noexpand\@glo@list\@glo@see\noexpand\@nil
 \noexpand\expandafter\noexpand\@glssee\noexpand\@glo@list{\@glo@label}}%
 \@do@glssee
}%
\@glo@autoseehook
}%
\newcommand*{\@glo@autoseehook}{%
\newcommand*{\@newglossaryentryprehook}{%
\newcommand*{\@newglossaryentryposthook}{%
\newcommand*{\@newglossaryentrydefcounters}{%

```



```

\newcommand*\glsmoveentry}[2]{%
 \protected@edef\glo@thislabel{\glsdetoklabel{#1}}%
 \protected@edef\glo@type{\csname glo@\glo@thislabel @type\endcsname}%
 \def\glo@list{,%}
 \forlslentries[\glo@type]{\glo@label}%
 {%
 \ifdefequal\@glo@thislabel\glo@label
 {}{\protected@eappto\glo@list{\glo@label,}}%
 }%
 \cslet\glo@list@\glo@type{\glo@list}%
 \csdef\glo@\@glo@thislabel @type}{#2}%
}
\ifglxindy
 \newcommand*\@glossaryentryfield{\string\glossentry}
\else
 \newcommand*\@glossaryentryfield{\string\glossentry}
\fi
\ifglxindy
 \newcommand*\@glossarysubentryfield{%
 \string\subglossentry}
\else
 \newcommand*\@glossarysubentryfield{%
 \string\subglossentry}
\fi
\newcommand{\glo@storeentry}[1]{%
 \protected@edef\glo@esclabel{#1}%
 \gls@checkmkidxchars\glo@esclabel
 \protected@edef\glo@sort{\csname glo@#1@sort\endcsname}%
 \gls@checkmkidxchars\glo@sort
 \gls@checkmkidxchars\glo@prefix
 \protected@edef\glo@parent{\csname glo@#1@parent\endcsname}%
 \ifglxindy
 \ifx\glo@parent\@empty
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 (\string\@glo@sort\string" %
 \string\@glo@prefix\@glossaryentryfield{\@glo@esclabel}\string") %
 }%
 \else
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \csname glo@\@glo@parent @index\endcsname
 (\string\@glo@sort\string" %
 \string\@glo@prefix\@glossarysubentryfield
 {\csname glo@#1@level\endcsname}{\@glo@esclabel}\string") %
 }%
 \fi
 \else
 \ifx\glo@parent\@empty
 \@onelevel@sanitize\@glo@prefix
 \expandafter\protected@xdef\csname glo@#1@index\endcsname{%
 \glo@sort\gls@actualchar\@glo@prefix

```

```

 \@glossaryentryfield{\@glo@esclabel}%
 }%
\else
\expandafter\protected\xdef\csname glo@#1@index\endcsname{%
\csname glo@\@glo@parent @index\endcsname\@gls@levelchar
\@glo@sort\@gls@actualchar\@glo@prefix
\@glossarysubentryfield
{\csname glo@#1@level\endcsname}\@glo@esclabel}%
}%
\fi
\fi
}
\newcommand*\@gls@if@measuring}[2]{%
\ifmeasuring@
#1%
\else
#2%
\fi
}
\let\gls@org@refstepcounter\refstepcounter
\let\gls@org@label\label
\newcommand*\gls@if@measuring}[2]{#2}
\AtBeginDocument{%
\@ifpackageloaded{amsmath}%
{\let\gls@if@measuring\@gls@if@measuring}%
{}}%
\let\gls@org@refstepcounter\refstepcounter
\let\gls@org@label\label
}
\newcommand*\gls@ifnotmeasuring[1]{\glsifmeasuring}{#1}}
\newcommand*\glsifmeasuring{\gls@if@measuring}
\newcommand*\gls@local@stepcounter}[1]{%
\ifcsdef{c@#1}%
{%
\epreto\gls@measuring@reset{\noexpand\setcounter{#1}{\number\value{#1}}}%
\expandafter\advance\csname c@#1\endcsname by \@ne
}%
{}}%
}
\newcommand*\gls@start@measuring}{%
\ifx\glsifmeasuring\@firstoftwo
\else
\let\gls@org@target\glstarget
\let\gls@org@link\glslink
\def\gls@measuring@reset{}%
\fi
\let\glsifmeasuring\@firstoftwo
\let\refstepcounter\gls@local@stepcounter
\let\label\@gobble
\let\glstarget\@secondoftwo

```

```

\let\@glslink\@secondoftwo
}
\newcommand{\gls@stop@measuring}{%
\renewcommand*\gls@ifmeasuring{\gls@if@measuring}%
\let\refstepcounter\gls@org@refstepcounter
\let\label\gls@org@label
\let\glstarget\gls@org@target
\let\@glslink\gls@org@link
\gls@measuring@reset
\def\gls@measuring@reset{%
}
\newcommand{\glsmeasureheight}[2]{%
\settoheight{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\newcommand{\glsmeasuredepth}[2]{%
\settodepth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\newcommand{\glsmeasurewidth}[2]{%
\settowidth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\def\@gls@patchtabularx#1\hbox#2#3!!{%
\def\TX@trial##1{#1\hbox{\gls@start@measuring#2\gls@stop@measuring}#3}%
}
\newcommand*\glspatchtabularx{%
\ifdef\TX@trial
{%
\expandafter\@gls@patchtabularx\TX@trial{##1}!!%
\let\glspatchtabularx\relax
}%
}%
}
\newcommand*\glsreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glsreset{#1}%
}%
}%
}
\newcommand*\glslocalreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glslocalreset{#1}%
}%
}%
}
\newcommand*\glsunset}[1]{%

```

```

\gls@ifnotmeasuring
{%
 \glsdoifexists{#1}%
 {%
 \@glsunset{#1}%
 }%
}%
}
\newcommand*{\glslocalunset}[1]{%
 \gls@ifnotmeasuring
 {%
 \glsdoifexists{#1}%
 {%
 \@glslocalunset{#1}%
 }%
 }%
}
\newcommand*{\@glslocalunset}{\@glslocalunset}
\newcommand*{\@glslocalunset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iftrue
}
\newcommand*{\@glsunset}{\@glsunset}
\newcommand*{\@glsunset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagtrue\endcsname
}
\newcommand*{\@glslocalreset}{\@glslocalreset}
\newcommand*{\@glslocalreset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iffalse
}
\newcommand*{\@glsreset}{\@glsreset}
\newcommand*{\@glsreset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagfalse\endcsname
}
\newcommand*{\glsresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsreset{\@glsentry}%
 }%
}
\newcommand*{\glslocalresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalreset{\@glsentry}%
 }%
}
\newcommand*{\glsunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsunset{\@glsentry}%
 }%
}

```

```

}
\newcommand*\glslocalunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalunset{\@glsentry}%
 }%
}
\newcommand*\@newglossaryentry@defcounters{%
 \csdef{glo@\@glo@label @currcount}{0}%
 \csdef{glo@\@glo@label @prevcount}{0}%
}
\newif\ifglsresetcurrcount
\glsresetcurrcountfalse
\newcommand*\glsenableentrycount{%
 \let\@newglossaryentry@defcounters\@newglossaryentry@defcounters
 \renewcommand*\gls@defdocnewglossaryentry{%
 \renewcommand*\newglossaryentry[2]{%
 \PackageError{glossaries}{\string\newglossaryentry\space
 may only be used in the preamble when entry counting has
 been activated}{If you use \string\glsenableentrycount\space
 you must place all entry definitions in the preamble not in
 the document environment}%
 }%
 }%
}
\newcommand*\glsentrycurrcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@currcount}%
 {0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
 \ifcsundef{glo@\glsdetoklabel{##1}@prevcount}%
 {0}{\@gls@entry@field{##1}{prevcount}}%
}%
\renewcommand*\@glsunset}[1]{%
 \@glsunset{##1}%
 \@gls@increment@currcount{##1}%
}%
\renewcommand*\@glslocalunset}[1]{%
 \@glslocalunset{##1}%
 \@gls@local@increment@currcount{##1}%
}%
\renewcommand*\@glsreset}[1]{%
 \@glsreset{##1}%
 \ifglsresetcurrcount\csgdef{glo@\glsdetoklabel{##1}@currcount}{0}\fi
}%
\renewcommand*\@glslocalreset}[1]{%
 \@glslocalreset{##1}%
 \ifglsresetcurrcount\csdef{glo@\glsdetoklabel{##1}@currcount}{0}\fi
}%
\def\@cgls@##1##2[##3]{%
 \ifnum\glsentryprevcount{##2}=1\relax

```

```

 \cglformat{##2}{##3}%
 \glset{##2}%
 \else
 \@gls@{##1}{##2}[##3]%
 \fi
}%
\def\@cgl@##1##2[##3]{%
 \ifnum\glsetprevcount{##2}=1\relax
 \cglformat{##2}{##3}%
 \glset{##2}%
 \else
 \@cgl@{##1}{##2}[##3]%
 \fi
}%
\def\@Gls@##1##2[##3]{%
 \ifnum\glsetprevcount{##2}=1\relax
 \cglformat{##2}{##3}%
 \glset{##2}%
 \else
 \@Gls@{##1}{##2}[##3]%
 \fi
}%
\def\@Glspl@##1##2[##3]{%
 \ifnum\glsetprevcount{##2}=1\relax
 \cglformat{##2}{##3}%
 \glset{##2}%
 \else
 \@Glspl@{##1}{##2}[##3]%
 \fi
}%
}
\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*{\@gls@entry@count}[2]{%
 \csdef{glo@glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsetenableentrycount\relax
}
\@onlypreamble\glsetenableentrycount
\newcommand*{\@gls@increment@currcount}[1]{%
 \csxdef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsetcurrcount{##1}+1}%
}
\newcommand*{\@gls@local@increment@currcount}[1]{%
 \csedef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsetcurrcount{##1}+1}%
}
\newcommand*{\@gls@write@entrycounts}{%
 \immediate\write\@auxout
 {\string\providecommand*{\string\@gls@entry@count}[2]{}}%
 \forallglsentries{\@glsentry}{%
 \ifglsused{\@glsentry}%

```

```

 {\immediate\write\@auxout
 {\string\@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}%
 }%
 }%
}
\newcommand*{\@gls@entry@count}[2]{%
\newrobustcmd*{\cgl}{\@gls@hyp@opt\@cgl}
\newcommand*{\@cgl}[2][{}]{%
 \new@ifnextchar[{\@cgl@{#1}{#2}}{\@cgl@{#1}{#2}[]}%
}
\def\@cgl@#1#2[#3]{%
 \GlossariesWarning{\string\cgl\space is defaulting to
 \string\gls\space since you haven't enabled entry counting}%
 \@cgl@{#1}{#2}[#3]%
}
\newcommand*{\cglformat}[2]{%
 \ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cGls}{\@gls@hyp@opt\@cGls}
\glsmfuaddmap{\cgl}{\cGls}
\newcommand*{\@cGls}[2][{}]{%
 \new@ifnextchar[{\@cGls@{#1}{#2}}{\@cGls@{#1}{#2}[]}%
}
\def\@cGls@#1#2[#3]{%
 \GlossariesWarning{\string\cGls\space is defaulting to
 \string\Gls\space since you haven't enabled entry counting}%
 \@Gls@{#1}{#2}[#3]%
}
\newcommand*{\cGlsformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cglspl}{\@gls@hyp@opt\@cglspl}
\newcommand*{\@cglspl}[2][{}]{%
 \new@ifnextchar[{\@cglspl@{#1}{#2}}{\@cglspl@{#1}{#2}[]}%
}
\def\@cglspl@#1#2[#3]{%
 \GlossariesWarning{\string\cglspl\space is defaulting to
 \string\glspl\space since you haven't enabled entry counting}%
 \@glspl@{#1}{#2}[#3]%
}
\newcommand*{\cglsplformat}[2]{%
 \ifglshaslong{#1}{\glsentrylongpl{#1}}{\glsentryfirstplural{#1}}#2%
}
\newrobustcmd*{\cGlspl}{\@gls@hyp@opt\@cGlspl}
\glsmfuaddmap{\cglspl}{\cGlspl}
\newcommand*{\@cGlspl}[2][{}]{%
 \new@ifnextchar[{\@cGlspl@{#1}{#2}}{\@cGlspl@{#1}{#2}[]}%
}
\def\@cGlspl@#1#2[#3]{%
 \GlossariesWarning{\string\cGlspl\space is defaulting to

```

```

\string\Glspl\space since you haven't enabled entry counting}%
\@Glspl@{#1}{#2}[#3]%
}
\newcommand*\cGlsplformat}[2]{%
\ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*\loadglsentries}[2][\@gls@default]{%
\let\@gls@default\glsdefaulttype
\def\glsdefaulttype{#1}\input{#2}%
\let\glsdefaulttype\@gls@default
}
\@onlypreamble{\loadglsentries}
\newcommand*\glstextformat}[1]{#1}
\newcommand*\glsentryfmt{\glsgenentryfmt}
\newcommand*\glsgenentryfmt{%
\ifdefempty\glscustomtext
{%
\glsifplural
{%
\glscapscase
{%
\ifglsused\glslabel
{%
\glsentryplural{\glslabel}\glsinsert
}%
{%
\glsentryfirstplural{\glslabel}\glsinsert
}%
}%
{%
\ifglsused\glslabel
{%
\Glsentryplural{\glslabel}\glsinsert
}%
{%
\Glsentryfirstplural{\glslabel}\glsinsert
}%
}%
\ifglsused\glslabel
{%
\glsuppercase{\glsentryplural{\glslabel}\glsinsert}%
}%
{%
\glsuppercase{\glsentryfirstplural{\glslabel}\glsinsert}%
}%
}%
}%
\glscapscase

```



```

 {%
 \ifglused\glslabel
 {%
 \glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglused\glslabel
 {%
 \Glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirst{\glslabel}\glsinsert
 }%
 }%
 {%
 \ifglused\glslabel
 {%
 \glsuppercase{\glsentrytext{\glslabel}\glsinsert}%
 }%
 {%
 \glsuppercase{\glsentryfirst{\glslabel}\glsinsert}%
 }%
 }%
 }%
}
\newcommand*{\glsacronymfont}{%
 \ifempty\glsacronymfont
 {%
 \ifglused\glslabel
 {%
 \glsifplural
 {%
 \glsacronymfont{\glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \Glsacronymfont{\Glsentryshortpl{\glslabel}}\glsinsert
 }%
 }%
 }%
}

```



```

\newcommand*\genacrfullformat}[2]{%
 \glsentrylong{#1}#2\space
 (\protect\firstacronymfont{\glsentryshort{#1}})%
}
\newcommand*\Genacrfullformat}[2]{%
 \protected@edef\gls@text{\genacrfullformat{#1}{#2}}%
 \expandafter\glsentencecase\expandafter{\gls@text}%
}
\newcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{#1}#2\space
 (\protect\firstacronymfont{\glsentryshortpl{#1}})%
}
\newcommand*\Genplacrfullformat}[2]{%
 \protected@edef\gls@text{\genplacrfullformat{#1}{#2}}%
 \expandafter\glsentencecase\expandafter{\gls@text}%
}
\define@key{glslink}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
 {%
 \def\@gls@counter{#1}%
 }%
}
\define@key{glslink}{format}{%
 \def\@glsnumberformat{#1}}
\newcommand*\@gls@glslink@hyper@update@hook{}
\define@boolkey{glslink}{hyper}[true]{\@gls@glslink@hyper@update@hook}
\ifdef{\hyperlink}{\KV@glslink@hypertrue}{\KV@glslink@hyperfalse}
\newcommand*\@gls@save@glslocal{%
 \let\if@org@KV@glslink@local\ifKV@glslink@local
}
\newcommand*\@gls@restore@glslocal{%
 \ifKV@glslink@local
 \let\@gls@do@glsunset@glslocalunset
 \else
 \let\@gls@do@glsunset@glsunset
 \fi
 \let\ifKV@glslink@local\if@org@KV@glslink@local
}
\newcommand*\@gls@do@glsunset}[1]{\glsunset{#1}}
\define@boolkey{glslink}{local}[true]{}
\@gls@save@glslocal
\newcommand*\glslinkvar}[3]{#1}

```

```

\newcommand*{\@gls@hyp@opt}[1]{%
 \let\glslinkvar\@firstofthree
 \let\@gls@hyp@opt@cs#1\relax
 \@ifstar{\s@gls@hyp@opt}%
 {\@ifnextchar+{\@firstoftwo{\p@gls@hyp@opt}}{#1}}%
}
\newcommand*{\s@gls@hyp@opt}[1] []{%
 \let\glslinkvar\@secondofthree
 \@gls@hyp@opt@cs[hyper=false,#1]}
\newcommand*{\p@gls@hyp@opt}[1] []{%
 \let\glslinkvar\@thirdofthree
 \@gls@hyp@opt@cs[hyper=true,#1]}
\newrobustcmd*{\glslink}{%
 \@gls@hyp@opt\@gls@@link
}
\newcommand*{\@gls@@link}[3] []{%
 \glsdoifexistsordo{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\relax
 \@gls@link[#1]{#2}{#3}%
 }{%
 \glstextformat{#3}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Glslink}{%
 \@gls@hyp@opt\@Gls@@link
}
\newcommand*{\@Gls@@link}[3] []{%
 \@gls@@link[#1]{#2}{\glssentencecase{#3}}%
}
\glsmfuaddmap{\glslink}{\Glslink}
\newcommand*{\glspostlinkhook}{%
\newcommand*{\@gls@link@checkfirsthyper}{%
 \ifglsused{\glslabel}%
 {%
 }%
 {%
 \gls@checkisacronymlist\glstype
 \ifglshyperfirst
 \if@glsisacronymlist
 \ifglsacrfootnote
 \KV@glslink@hyperfalse
 \fi
 \fi
 \else
 \KV@glslink@hyperfalse
 \fi
 }%
 \glslinkcheckfirsthyperhook
}

```

```

}
\newcommand*\glslinkcheckfirsthyperhook{}
\newcommand*\glslinkpostsetkeys{}
\newcommand{\glsifhyperon}[2]{\ifKV@glslink@hyper#1\else#2\fi}
\newcommand*\do@glsdisablehyperinlist{%
 \expandafter\DTLifinlist\expandafter{\gls@type}{\@gls@nohyperlist}%
 {\KV@glslink@hyperfalse}{}}
}
\newcommand*\@gls@setdefault@glslink@opts{}
\def\@gls@link[#1]#2#3{%
 \leavevmode
 \protected@edef\glslabel{\glsdetoklabel{#2}}%
 \def\@gls@link@opts{#1}%
 \let\@gls@link@label\glslabel
 \def\@glsnumberformat{\glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
 \protected@edef\gls@type{\csname glo@\glslabel @type\endcsname}%
 \let\org@ifKV@glslink@hyper\ifKV@glslink@hyper
 \@gls@save@glslocal
 \@gls@setdefault@glslink@opts
 \do@glsdisablehyperinlist
 \do@gls@link@checkfirsthyper
 \setkeys{glslink}{#1}%
 \glslinkpostsetkeys
 \@gls@saveentrycounter
 \@gls@setsort{\glslabel}%
 \glsencapwrcontent{\do@wrglossary{#2}}%
 \ifKV@glslink@hyper
 \@glslink{\glslinkprefix\glslabel}{\gls@textformat{#3}}%
 \else
 \glsdonohyperlink{\glslinkprefix\glslabel}{\gls@textformat{#3}}%
 \fi
 \let\ifKV@glslink@hyper\org@ifKV@glslink@hyper
 \@gls@restore@glslocal
}
\newcommand*\glsencapwrcontent[1]{#1}
\newcommand*\glslinkprefix{glo:}
\def\glsentrycounter{\glscounter}%
\newcommand*\@gls@saveentrycounter{%
 \def\@gls@Hcounter{}%
 \ifthenelse{\equal{\@gls@counter}{equation}}%
 {
 \ifcsundef{xatlevel@}%
 {%
 \edef\theglsentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
 }%
 }%
 \ifx\xatlevel@\@empty
 \edef\theglsentrycounter{\expandafter\noexpand

```

```

 \csname the\@gls@counter\endcsname}%
\else
 \savecounters@
 \advance\c@equation by 1\relax
 \edef\theglentrycounter{\csname the\@gls@counter\endcsname}%
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\@gls@Hcounter{\theglentrycounter}%
 }%
 {%
 \def\@gls@Hcounter{\csname theH\@gls@counter\endcsname}%
 }%
 \protected@edef\theHglentrycounter{\@gls@Hcounter}%
 \restorecounters@
\fi
}%
}%
{%
 \edef\theglentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
}%
\ifx\@gls@Hcounter\@empty
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\theHglentrycounter{\theglentrycounter}%
 }%
 {%
 \protected@edef\theHglentrycounter{\expandafter\noexpand
 \csname theH\@gls@counter\endcsname}%
 }%
\fi
}
\def\@set@glo@numformat#1#2#3#4{%
 \expandafter\@glo@check@mkidxrangear#3\@nil
 \protected@edef#1{%
 \@glo@prefix setentrycounter[#4]{#2}%
 \expandafter\string\csname\@glo@suffix\endcsname
 }%
 \@gls@checkmkidxchars#1%
}
\def\@glo@check@mkidxrangear#1#2\@nil{%
\if#1(\relax
 \def\@glo@prefix{()}%
 \if\relax#2\relax
 \def\@glo@suffix{glsnumberformat}%
 \else
 \def\@glo@suffix{#2}%
 \fi
\else
 \if#1)\relax

```

```

\def\@glo@prefix{)}%
\if\relax#2\relax
\def\@glo@suffi{x{glsnumberformat}}%
\else
\def\@glo@suffi{x{#2}}%
\fi
\else
\def\@glo@prefix{ }\def\@glo@suffi{x{#1#2}}%
\fi
\fi}
\newcommand*\@gls@escbsdq}[1]{%
\def\@gls@checkedmkidx{}%
\let\gls@xdystring=#1\relax
\@onelevel@sanitize\gls@xdystring
\edef\do@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash\gls@xdystring\noexpand\@nil
\@backslashchar\@backslashchar\noexpand\@null}%
\do@gls@xdycheckbackslash
\expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@xdycheckquote\gls@xdystring\@nil""\@null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
\ifglsesclocations
\@for\@gls@tmp:=\gls@protected@pagefmts\do
{%
\edef\@gls@sanitized@tmp{\expandafter\@gobble\string\\ \expandonce\@gls@tmp}%
\@onelevel@sanitize\@gls@sanitized@tmp
\edef\gls@dostsubst{%
\noexpand\DTLsubstituteall\noexpand\gls@xdystring
{\@gls@sanitized@tmp}{\expandonce\@gls@tmp}%
}%
\gls@dostsubst
}%
\fi
\let#1=\gls@xdystring
}
\newcommand{\@gls@checkmkidxchars}[1]{%
\ifglsxindy
\@gls@escbsdq{#1}%
\else
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkquote#1\@nil""\@null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkescquote#1\@nil""\@null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkescactual#1\@nil\?\?\@null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%

```

```

\expandafter\@gls@checkactual#1\@nil??\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkbar#1\@nil||\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkesbar#1\@nil|||\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checklevel#1\@nil!!\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\expandafter\@gls@checkesclevel#1\@nil!!\!\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{}%
\edef\@do@gls@checkesc{%
 \noexpand\@gls@checkesc\expandonce{#1}\noexpand\@nil
 \@backslashchar\@backslashchar\noexpand\null
}%
\do@gls@checkesc
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\fi
}
\def\@gls@updatechecked#1\@nil#2{\def#2{#1}}
\newtoks\@gls@tmpb
\def\@gls@checkquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@@gls@checkquote{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@quotechar\@gls@quotechar\@gls@quotechar}%
 \def\@@gls@checkquote{\@gls@checkquote#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@quotechar}%
 \ifx\null#3\null
 \def\@@gls@checkquote{\@gls@checkquote#2""\null}%
 \else
 \def\@@gls@checkquote{\@gls@checkquote#2"#3\null}%
 \fi
 \fi
 \@@gls@checkquote
}
\def\@gls@checkescquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%

```



```

\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@quotechar
\@gls@quotechar\string"\@gls@quotechar}%
\def\@gls@checkescquote{\@gls@checkescquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkescquote{\@gls@checkescquote#2\""\null}%
\else
\def\@gls@checkescquote{\@gls@checkescquote#2\#"#3\null}%
\fi
\fi
\@gls@checkescquote
}
\def\@gls@checkescactual#1\?#2\?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar
\@gls@quotechar\string"\@gls@actualchar}%
\def\@gls@checkescactual{\@gls@checkescactual#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar}%
\ifx\null#3\null
\def\@gls@checkescactual{\@gls@checkescactual#2\?\?\null}%
\else
\def\@gls@checkescactual{\@gls@checkescactual#2\?#3\null}%
\fi
\fi
\@gls@checkescactual
}
\def\@gls@checkescbar#1\|#2\|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null

```

```

\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkesubar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@encapchar
\@gls@quotechar\string"\@gls@encapchar}%
\def\@gls@checkesubar{\@gls@checkesubar#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@encapchar}%
\ifx\null#3\null
\def\@gls@checkesubar{\@gls@checkesubar#2\|\|\null}%
\else
\def\@gls@checkesubar{\@gls@checkesubar#2\|#3\null}%
\fi
\fi
\@gls@checkesubar
}
\def\@gls@checkeslevel#1\!#2\!#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkeslevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@levelchar
\@gls@quotechar\string"\@gls@levelchar}%
\def\@gls@checkeslevel{\@gls@checkeslevel#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@levelchar}%
\ifx\null#3\null
\def\@gls@checkeslevel{\@gls@checkeslevel#2\!\!\null}%
\else
\def\@gls@checkeslevel{\@gls@checkeslevel#2\!#3\null}%
\fi
\fi
\@gls@checkeslevel
}
\def\@gls@checkbar#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%

```

```

\def\@gls@checkbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar\@gls@quotechar\@gls@encapchar}%
\def\@gls@checkbar{\@gls@checkbar#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar}%
\ifx\null#3\null
\def\@gls@checkbar{\@gls@checkbar#2|\null}%
\else
\def\@gls@checkbar{\@gls@checkbar#2|#3\null}%
\fi
\fi
\@gls@checkbar
}
\def\@gls@checklevel#1!#2!#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checklevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar\@gls@quotechar\@gls@levelchar}%
\def\@gls@checklevel{\@gls@checklevel#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@levelchar}%
\ifx\null#3\null
\def\@gls@checklevel{\@gls@checklevel#2!\null}%
\else
\def\@gls@checklevel{\@gls@checklevel#2|#3\null}%
\fi
\fi
\@gls@checklevel
}
\def\@gls@checkactual#1?#2?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@actualchar\@gls@quotechar\@gls@actualchar}%

```

```

 \def\@gls@checkactual{\@gls@checkactual#3\null}%
 \fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@actualchar}%
\ifx\null#3\null
\def\@gls@checkactual{\@gls@checkactual#2??\null}%
\else
\def\@gls@checkactual{\@gls@checkactual#2?#3\null}%
\fi
\fi
\@gls@checkactual
}
\bgroup
\catcode'\0\relax
\catcode'\12\relax
|gdef|\@gls@checkesc#1\#2\#3\null{%
|\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
|\toks@=#1}%
\ifx\null#2\null
|\ifx\null#3\null
|\edef|\@gls@checkedmkidx{\the|\@gls@tmpb|\the|\toks@}%
|\def|\@gls@checkesc{\relax}%
|\else
|\edef|\@gls@checkedmkidx{\the|\@gls@tmpb|\the|\toks@
|\@gls@quotechar|\backslashchar|\@gls@quotechar|\backslashchar}%
|\def|\@gls@checkesc{\@gls@checkesc#3\null}%
|\fi
|\else
|\edef|\@gls@checkedmkidx{\the|\@gls@tmpb|\the|\toks@
|\@gls@quotechar|\backslashchar}%
|\ifx\null#3\null
|\def|\@gls@checkesc{\@gls@checkesc#2\\\null}%
|\else
|\def|\@gls@checkesc{\@gls@checkesc#2\#3\null}%
|\fi
|\fi
|\@gls@checkesc
}
|egroup
\def\@gls@xdycheckquote#1"#2"#3\null{%
|\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
|\toks@=#1}%
\ifx\null#2\null
|\ifx\null#3\null
|\edef|\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
|\def\@gls@xdycheckquote{\relax}%
|\else
|\edef|\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
|\string"\string"}%

```

```

 \def\@@gls@xdycheckquote{\@gls@xdycheckquote#3\null}%
 \fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\string\}%
\ifx\null#3\null
\def\@@gls@xdycheckquote{\@gls@xdycheckquote#2""\null}%
\else
\def\@@gls@xdycheckquote{\@gls@xdycheckquote#2"#3\null}%
\fi
\fi
\fi
\@@gls@xdycheckquote
}
\edef\def@gls@xdycheckbackslash{%
\noexpand\def\noexpand\@gls@xdycheckbackslash##1\@backslashchar
##2\@backslashchar##3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter
{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={##1}%
\noexpand\ifx\noexpand\null##2\noexpand\null
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@@gls@xdycheckbackslash{\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar\@backslashchar\@backslashchar}%
\noexpand\def\noexpand\@@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar}%
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\def\noexpand\@@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
\@backslashchar\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
##3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@@gls@xdycheckbackslash
}%
}
\def@gls@xdycheckbackslash

```

```

\newlength\gls@tmplen
\newcommand*\glsdohypertarget}[2]{%
 \glsdoshowtarget{#1}%
 {%
 \glsmeasureheight{\gls@tmplen}{#2}%
 \raisebox{\gls@tmplen}{\hypertarget{#1}{}}%
 #2%
 }%
}
\newcommand*\glsdohyperlink}[2]{%
 \glsdoshowtarget{#1}{\hyperlink{#1}{#2}}%
}
\newcommand*\glsdonohyperlink}[2]{#2}
\ifcsundef{hyperlink}%
{%
 \let\@glslink\glsdonohyperlink
}%
{%
 \let\@glslink\glsdohyperlink
}
\ifcsundef{hypertarget}%
{%
 \let\@glstarget\@secondoftwo
}%
{%
 \let\@glstarget\glsdohypertarget
}
\newcommand{\glsdisablehyper}{%
 \KV@glslink@hyperfalse
 \let\@glslink\glsdonohyperlink
 \let\@glstarget\@secondoftwo
}
\newcommand{\glsenablehyper}{%
 \KV@glslink@hypertrue
 \let\@glslink\glsdohyperlink
 \let\@glstarget\glsdohypertarget
}
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
\newrobustcmd*\gls{\@gls@hyp@opt\@gls}
\newcommand*\@gls}[2][{}]{%
 \new@ifnextchar[{\@gls@{#1}{#2}}{\@gls@{#1}{#2}[]}%
}
\def\@gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\gls@ifplural\@secondoftwo
 \let\gls@scapscase\@firstofthree
 \let\gls@customtext\@empty
 }
}

```

```

\def\glsinsert{#3}%
\def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Gls}{\@gls@hyp@opt\@Gls}
\glsmfuaddmap{\gls}{\Gls}
\newcommand*{\@Gls}[2][{}]{%
\new@ifnextchar[{\@Gls@{#1}{#2}}{\@Gls@{#1}{#2}[]]}%
}
\def\@Gls@#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
\let\glsifplural\@secondoftwo
\let\gls@caps@case\@secondofthree
\let\gls@custom@text\@empty
\def\glsinsert{#3}%
\def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\GLS}{\@gls@hyp@opt\@GLS}
\glsmfublocker{\GLS}
\newcommand*{\@GLS}[2][{}]{%
\new@ifnextchar[{\@GLS@{#1}{#2}}{\@GLS@{#1}{#2}[]]}%
}
\def\@GLS@#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
\let\glsifplural\@secondoftwo
\let\gls@caps@case\@thirdofthree
\let\gls@custom@text\@empty
\def\glsinsert{#3}%
\def\glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\glspl}{\@gls@hyp@opt\@glspl}
\newcommand*{\@glspl}[2][{}]{%
\new@ifnextchar[{\@glspl@{#1}{#2}}{\@glspl@{#1}{#2}[]]}%
}
\def\@glspl@#1#2[#3]{%

```

```

\glsdoifexists{#2}%
{%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glsescapscase\@firstofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Glspl}{\@gls@hyp@opt\@Glspl}
\glsmfuaddmap{\glspl}{\Glspl}
\newcommand*{\@Glspl}[2][{}]{%
 \new@ifnextchar[{\@Glspl@{#1}{#2}}{\@Glspl@{#1}{#2}[]}%
}
\def\@Glspl@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glsescapscase\@secondofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \@gls@do@glsunset{#2}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\GLSp1}{\@gls@hyp@opt\@GLSp1}
\glsmfublocker{\GLSp1}
\newcommand*{\@GLSp1}[2][{}]{%
 \new@ifnextchar[{\@GLSp1@{#1}{#2}}{\@GLSp1@{#1}{#2}[]}%
}
\def\@GLSp1@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@firstoftwo
 \let\glsescapscase\@thirdofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \@gls@do@glsunset{#2}%
 }%
 \glspostlinkhook
}

```



```

}
\newrobustcmd*{\glsdisp}{\@gls@hyp@opt\@glsdisp}
\newcommand*{\@glsdisp}[3] []{%
 \glsdoifexists{#2}{%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\gls@scaps\@firstofthree
 \def\gls@customtext{#3}%
 \def\gls@insert{}%
 \def\@glo@text{\csname gls@\gls@type @entryfmt@endcsname}%
 \@gls@link{#1}{#2}{\@glo@text}%
 \@gls@do@gls@unset{#2}%
 }%
 \gls@postlinkhook
}
\newrobustcmd*{\Glsdisp}{\@gls@hyp@opt\@Glsdisp}
\newcommand*{\@Glsdisp}[3] []{%
 \@glsdisp{#1}{#2}{\gls@sentencecase{#3}}%
}
\gls@fu@addmap{\glsdisp}{\Glsdisp}
\newcommand*{\@gls@link@nocheckfirsthyper}{}
\newcommand{\@gls@field@link}[3] {%
 \glsdoifexists{#2}{%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \@gls@link{#1}{#2}{#3}%
 }%
 }%
 \gls@postlinkhook
}
\newrobustcmd*{\gls@text}{\@gls@hyp@opt\@gls@text}
\newcommand*{\@gls@text}[2] []{%
 \new@ifnextchar[{\@gls@text@{#1}{#2}}{\@gls@text@{#1}{#2} []}]
\def\@gls@text@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\gls@entrytext{#2}#3}%
}
\newrobustcmd*{\Gls@text}{\@gls@hyp@opt\@Gls@text}
\gls@fu@blocker{\Gls@text}
\newcommand*{\@Gls@text}[2] []{%
 \new@ifnextchar[{\@Gls@text@{#1}{#2}}{\@Gls@text@{#1}{#2} []}]
\def\@Gls@text@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\gls@supercase{\gls@entrytext{#2}#3}}%
}
\newrobustcmd*{\Gls@text}{\@gls@hyp@opt\@Gls@text}
\gls@fu@addmap{\gls@text}{\Gls@text}
\newcommand*{\@Gls@text}[2] []{%
 \new@ifnextchar[{\@Gls@text@{#1}{#2}}{\@Gls@text@{#1}{#2} []}]
\def\@Gls@text@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Gls@entrytext{#2}#3}%
}
\newrobustcmd*{\gls@first}{\@gls@hyp@opt\@gls@first}

```

```

\newcommand*{\@glsfirst}[2] [] {%
 \new@ifnextchar[{\@glsfirst@{#1}{#2}}{\@glsfirst@{#1}{#2} []}]
\def\@glsfirst@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\Glsfirst}{\@gls@hyp@opt\@Glsfirst}
\glsmfuaddmap{\glsfirst}{\Glsfirst}
\newcommand*{\@Glsfirst}[2] [] {%
 \new@ifnextchar[{\@Glsfirst@{#1}{#2}}{\@Glsfirst@{#1}{#2} []}]
\def\@Glsfirst@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\GLSfirst}{\@gls@hyp@opt\@GLSfirst}
\glsmfublocker{\GLSfirst}
\newcommand*{\@GLSfirst}[2] [] {%
 \new@ifnextchar[{\@GLSfirst@{#1}{#2}}{\@GLSfirst@{#1}{#2} []}]
\def\@GLSfirst@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\glsplural}{\@gls@hyp@opt\@glsplural}
\newcommand*{\@glsplural}[2] [] {%
 \new@ifnextchar[{\@glsplural@{#1}{#2}}{\@glsplural@{#1}{#2} []}]
\def\@glsplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryplural{#2}#3}%
}
\newrobustcmd*{\Glsplural}{\@gls@hyp@opt\@Glsplural}
\glsmfuaddmap{\glsplural}{\Glsplural}
\newcommand*{\@Glsplural}[2] [] {%
 \new@ifnextchar[{\@Glsplural@{#1}{#2}}{\@Glsplural@{#1}{#2} []}]
\def\@Glsplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryplural{#2}#3}%
}
\newrobustcmd*{\GLSplural}{\@gls@hyp@opt\@GLSplural}
\glsmfublocker{\GLSplural}
\newcommand*{\@GLSplural}[2] [] {%
 \new@ifnextchar[{\@GLSplural@{#1}{#2}}{\@GLSplural@{#1}{#2} []}]
\def\@GLSplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentryplural{#2}#3}%
}
\newrobustcmd*{\glsfirstplural}{\@gls@hyp@opt\@glsfirstplural}
\newcommand*{\@glsfirstplural}[2] [] {%
 \new@ifnextchar[{\@glsfirstplural@{#1}{#2}}{\@glsfirstplural@{#1}{#2} []}]
\def\@glsfirstplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryfirstplural{#2}#3}%
}
\newrobustcmd*{\Glsfirstplural}{\@gls@hyp@opt\@Glsfirstplural}
\glsmfuaddmap{\glsfirstplural}{\Glsfirstplural}
\newcommand*{\@Glsfirstplural}[2] [] {%
 \new@ifnextchar[{\@Glsfirstplural@{#1}{#2}}{\@Glsfirstplural@{#1}{#2} []}]
\def\@Glsfirstplural@#1#2[#3] {%

```

```

 \@gls@field@link{#1}{#2}{\glstentryfirstplural{#2}#3}%
}
\newrobustcmd*{\GLSfirstplural}{\@gls@hyp@opt\@GLSfirstplural}
\glsmfublocker{\GLSfirstplural}
\newcommand*{\@GLSfirstplural}[2] []{%
 \new@ifnextchar[{\@GLSfirstplural@{#1}{#2}}{\@GLSfirstplural@{#1}{#2} []}]
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssupercase{\glstentryfirstplural{#2}#3}}%
}
\newrobustcmd*{\glsname}{\@gls@hyp@opt\@glsname}
\newcommand*{\@glsname}[2] []{%
 \new@ifnextchar[{\@glsname@{#1}{#2}}{\@glsname@{#1}{#2} []}]
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstentryname{#2}#3}%
}
\newrobustcmd*{\Glsname}{\@gls@hyp@opt\@Glsname}
\glsmfuaddmap{\glsname}{\Glsname}
\newcommand*{\@Glsname}[2] []{%
 \new@ifnextchar[{\@Glsname@{#1}{#2}}{\@Glsname@{#1}{#2} []}]
\def\@Glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstentryname{#2}#3}%
}
\newrobustcmd*{\GLSname}{\@gls@hyp@opt\@GLSname}
\glsmfublocker{\GLSname}
\newcommand*{\@GLSname}[2] []{%
 \new@ifnextchar[{\@GLSname@{#1}{#2}}{\@GLSname@{#1}{#2} []}]
\def\@GLSname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssupercase{\glstentryname{#2}#3}}%
}
\newrobustcmd*{\glsdesc}{\@gls@hyp@opt\@glsdesc}
\newcommand*{\@glsdesc}[2] []{%
 \new@ifnextchar[{\@glsdesc@{#1}{#2}}{\@glsdesc@{#1}{#2} []}]
\def\@glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstentrydesc{#2}#3}%
}
\newrobustcmd*{\Glsdesc}{\@gls@hyp@opt\@Glsdesc}
\glsmfuaddmap{\glsdesc}{\Glsdesc}
\newcommand*{\@Glsdesc}[2] []{%
 \new@ifnextchar[{\@Glsdesc@{#1}{#2}}{\@Glsdesc@{#1}{#2} []}]
\def\@Glsdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glstentrydesc{#2}#3}%
}
\newrobustcmd*{\GLSdesc}{\@gls@hyp@opt\@GLSdesc}
\glsmfublocker{\GLSdesc}
\newcommand*{\@GLSdesc}[2] []{%
 \new@ifnextchar[{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}]
\def\@GLSdesc@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glssupercase{\glstentrydesc{#2}#3}}%
}
\newrobustcmd*{\glsdescplural}{\@gls@hyp@opt\@glsdescplural}

```

```

\newcommand*{\@glsdescplural}[2] [] {%
 \new@ifnextchar[{\@glsdescplural@{#1}{#2}}{\@glsdescplural@{#1}{#2} []}]
\def\@glsdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\Glsdescplural}{\@gls@hyp@opt\@Glsdescplural}
\glsmfuaddmap{\glsdescplural}{\Glsdescplural}
\newcommand*{\@Glsdescplural}[2] [] {%
 \new@ifnextchar[{\@Glsdescplural@{#1}{#2}}{\@Glsdescplural@{#1}{#2} []}]
\def\@Glsdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\glsmfublocker{\GLSdescplural}
\newcommand*{\@GLSdescplural}[2] [] {%
 \new@ifnextchar[{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
\def\@GLSdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentrydescplural{#2}#3}}%
}
\newrobustcmd*{\glsymbol}{\@gls@hyp@opt\@glsymbol}
\newcommand*{\@glsymbol}[2] [] {%
 \new@ifnextchar[{\@glsymbol@{#1}{#2}}{\@glsymbol@{#1}{#2} []}]
\def\@glsymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrysymbol{#2}#3}%
}
\newrobustcmd*{\GLSymbol}{\@gls@hyp@opt\@GLSymbol}
\glsmfublocker{\GLSymbol}
\newcommand*{\@GLSymbol}[2] [] {%
 \new@ifnextchar[{\@GLSymbol@{#1}{#2}}{\@GLSymbol@{#1}{#2} []}]
\def\@GLSymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentrysymbol{#2}#3}}%
}
\newrobustcmd*{\glsymbolplural}{\@gls@hyp@opt\@glsymbolplural}
\newcommand*{\@glsymbolplural}[2] [] {%
 \new@ifnextchar[{\@glsymbolplural@{#1}{#2}}{\@glsymbolplural@{#1}{#2} []}]
\def\@glsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\GLSymbolplural}{\@gls@hyp@opt\@GLSymbolplural}
\glsmfuaddmap{\glsymbolplural}{\GLSymbolplural}
\newcommand*{\@GLSymbolplural}[2] [] {%
 \new@ifnextchar[{\@GLSymbolplural@{#1}{#2}}{\@GLSymbolplural@{#1}{#2} []}]
\def\@GLSymbolplural@#1#2[#3] {%

```

```

 \@gls@field@link{#1}{#2}{\Glsentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\GLSsymbolplural}{\@gls@hyp@opt\@GLSsymbolplural}
\glsmfublocker{\GLSsymbolplural}
\newcommand*{\@GLSsymbolplural}[2] [] {%
 \new@ifnextchar[{\@GLSsymbolplural@{#1}{#2}}{\@GLSsymbolplural@{#1}{#2} []}]
\def\@GLSsymbolplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrysymbolplural{#2}#3}}%
}
\newrobustcmd*{\glsuseri}{\@gls@hyp@opt\@glsuseri}
\newcommand*{\@glsuseri}[2] [] {%
 \new@ifnextchar[{\@glsuseri@{#1}{#2}}{\@glsuseri@{#1}{#2} []}]
\def\@glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuseri{#2}#3}%
}
\newrobustcmd*{\Glsuseri}{\@gls@hyp@opt\@Glsuseri}
\glsmfuaddmap{\glsuseri}{\Glsuseri}
\newcommand*{\@Glsuseri}[2] [] {%
 \new@ifnextchar[{\@Glsuseri@{#1}{#2}}{\@Glsuseri@{#1}{#2} []}]
\def\@Glsuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuseri{#2}#3}%
}
\newrobustcmd*{\GLSuseri}{\@gls@hyp@opt\@GLSuseri}
\glsmfublocker{\GLSuseri}
\newcommand*{\@GLSuseri}[2] [] {%
 \new@ifnextchar[{\@GLSuseri@{#1}{#2}}{\@GLSuseri@{#1}{#2} []}]
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseri{#2}#3}}%
}
\newrobustcmd*{\glsuserii}{\@gls@hyp@opt\@glsuserii}
\newcommand*{\@glsuserii}[2] [] {%
 \new@ifnextchar[{\@glsuserii@{#1}{#2}}{\@glsuserii@{#1}{#2} []}]
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuserii{#2}#3}%
}
\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}
\glsmfuaddmap{\glsuserii}{\Glsuserii}
\newcommand*{\@Glsuserii}[2] [] {%
 \new@ifnextchar[{\@Glsuserii@{#1}{#2}}{\@Glsuserii@{#1}{#2} []}]
\def\@Glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
\newrobustcmd*{\GLSuserii}{\@gls@hyp@opt\@GLSuserii}
\glsmfublocker{\GLSuserii}
\newcommand*{\@GLSuserii}[2] [] {%
 \new@ifnextchar[{\@GLSuserii@{#1}{#2}}{\@GLSuserii@{#1}{#2} []}]
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuserii{#2}#3}}%
}
\newrobustcmd*{\glsuseriii}{\@gls@hyp@opt\@glsuseriii}

```

```

\newcommand*{\@glsuseriii}[2] [] {%
 \new@ifnextchar [{\@glsuseriii@{#1}{#2}}{\@glsuseriii@{#1}{#2} []}]
\def\@glsuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
\glsmfuaddmap{\glsuseriii}{\Glsuseriii}
\newcommand*{\@Glsuseriii}[2] [] {%
 \new@ifnextchar [{\@Glsuseriii@{#1}{#2}}{\@Glsuseriii@{#1}{#2} []}]
\def\@Glsuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\GLSuseriii}{\@gls@hyp@opt\@GLSuseriii}
\glsmfublocker{\GLSuseriii}
\newcommand*{\@GLSuseriii}[2] [] {%
 \new@ifnextchar [{\@GLSuseriii@{#1}{#2}}{\@GLSuseriii@{#1}{#2} []}]
\def\@GLSuseriii@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseriii{#2}#3}}%
}
\newrobustcmd*{\glsuseriv}{\@gls@hyp@opt\@glsuseriv}
\newcommand*{\@glsuseriv}[2] [] {%
 \new@ifnextchar [{\@glsuseriv@{#1}{#2}}{\@glsuseriv@{#1}{#2} []}]
\def\@glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryuseriv{#2}#3}%
}
\newrobustcmd*{\Glsuseriv}{\@gls@hyp@opt\@Glsuseriv}
\glsmfuaddmap{\glsuseriv}{\Glsuseriv}
\newcommand*{\@Glsuseriv}[2] [] {%
 \new@ifnextchar [{\@Glsuseriv@{#1}{#2}}{\@Glsuseriv@{#1}{#2} []}]
\def\@Glsuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryuseriv{#2}#3}%
}
\newrobustcmd*{\GLSuseriv}{\@gls@hyp@opt\@GLSuseriv}
\glsmfublocker{\GLSuseriv}
\newcommand*{\@GLSuseriv}[2] [] {%
 \new@ifnextchar [{\@GLSuseriv@{#1}{#2}}{\@GLSuseriv@{#1}{#2} []}]
\def\@GLSuseriv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseriv{#2}#3}}%
}
\newrobustcmd*{\glsuserv}{\@gls@hyp@opt\@glsuserv}
\newcommand*{\@glsuserv}[2] [] {%
 \new@ifnextchar [{\@glsuserv@{#1}{#2}}{\@glsuserv@{#1}{#2} []}]
\def\@glsuserv@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentryuserv{#2}#3}%
}
\newrobustcmd*{\Glsuserv}{\@gls@hyp@opt\@Glsuserv}
\glsmfuaddmap{\glsuserv}{\Glsuserv}
\newcommand*{\@Glsuserv}[2] [] {%
 \new@ifnextchar [{\@Glsuserv@{#1}{#2}}{\@Glsuserv@{#1}{#2} []}]
\def\@Glsuserv@#1#2[#3] {%

```

```

 \@gls@field@link{#1}{#2}{\glsentryuserv{#2}#3}%
}
\newrobustcmd*{\GLSuserv}{\@gls@hyp@opt\@GLSuserv}
\glsmfublocker{\GLSuserv}
\newcommand*{\@GLSuserv}[2][{}]{%
\new@ifnextchar[{\@GLSuserv@{#1}{#2}}{\@GLSuserv@{#1}{#2}[]}]
\def\@GLSuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuserv{#2}#3}%
}
\newrobustcmd*{\glsuservi}{\@gls@hyp@opt\@glsuservi}
\newcommand*{\@glsuservi}[2][{}]{%
 \new@ifnextchar[{\@glsuservi@{#1}{#2}}{\@glsuservi@{#1}{#2}[]}]
\def\@glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuservi{#2}#3}%
}
\newrobustcmd*{\Glsuservi}{\@gls@hyp@opt\@Glsuservi}
\glsmfuaddmap{\glsuservi}{\Glsuservi}
\newcommand*{\@Glsuservi}[2][{}]{%
 \new@ifnextchar[{\@Glsuservi@{#1}{#2}}{\@Glsuservi@{#1}{#2}[]}]
\def\@Glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuservi{#2}#3}%
}
\newrobustcmd*{\GLSuservi}{\@gls@hyp@opt\@GLSuservi}
\glsmfublocker{\GLSuservi}
\newcommand*{\@GLSuservi}[2][{}]{%
 \new@ifnextchar[{\@GLSuservi@{#1}{#2}}{\@GLSuservi@{#1}{#2}[]}]
\def\@GLSuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuservi{#2}#3}%
}
\newrobustcmd*{\acrshort}{\@gls@hyp@opt\ns@acrshort}
\newcommand*{\ns@acrshort}[2][{}]{%
 \new@ifnextchar[{\@acrshort{#1}{#2}}{\@acrshort{#1}{#2}[]}]
}
\def\@acrshort#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrshort}{\@gls@hyp@opt\ns@Acrshort}
\glsmfuaddmap{\Acrshort}{\Acrshort}
\newcommand*{\ns@Acrshort}[2][{}]{%

```

```

\new@ifnextchar [{\@Acrshort{#1}{#2}}{\@Acrshort{#1}{#2} []}%
}
\def\@Acrshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@secondoftwo
\let\glscapscase\@secondofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\acronymfont{\Glsentryshort{#2}}#3%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\ACRshort}{\@gl@hyp@opt\ns@ACRshort}
\glsmfublocker{\ACRshort}
\newcommand*{\ns@ACRshort}[2] []{%
\new@ifnextchar [{\@ACRshort{#1}{#2}}{\@ACRshort{#1}{#2} []}%
}
\def\@ACRshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@secondoftwo
\let\glscapscase\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{%
\glsuppercase{\acronymfont{\glsentryshort{#2}}#3}%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\acrshortpl}{\@gl@hyp@opt\ns@acrshortpl}
\newcommand*{\ns@acrshortpl}[2] []{%
\new@ifnextchar [{\@acrshortpl{#1}{#2}}{\@acrshortpl{#1}{#2} []}%
}
\def\@acrshortpl#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@firstoftwo
\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%

```



```

 \acronymfont{\glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
}
\glspostlinkhook
}
\newrobustcmd*{\Acrshortpl}{\@gls@hyp@opt\ns@Acrshortpl}
\glsmfuaddmap{\Acrshortpl}{\Acrshortpl}
\newcommand*{\ns@Acrshortpl}[2] []{%
 \new@ifnextchar[{\@Acrshortpl{#1}{#2}}{\@Acrshortpl{#1}{#2} []}%
}
\def\@Acrshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\gls@scaps\@secondofthree
 \let\glsinsert\@empty
 \def\gls@customtext{%
 \acronymfont{\Glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshortpl}{\@gls@hyp@opt\ns@ACRshortpl}
\glsmfublocker{\ACRshortpl}
\newcommand*{\ns@ACRshortpl}[2] []{%
 \new@ifnextchar[{\@ACRshortpl{#1}{#2}}{\@ACRshortpl{#1}{#2} []}%
}
\def\@ACRshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\gls@scaps\@thirdofthree
 \let\glsinsert\@empty
 \def\gls@customtext{%
 \glsuppercase{\acronymfont{\glsentryshortpl{#2}}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlong}{\@gls@hyp@opt\ns@acrlong}
\newcommand*{\ns@acrlong}[2] []{%
 \new@ifnextchar[{\@acrlong{#1}{#2}}{\@acrlong{#1}{#2} []}%
}

```

```

\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glentrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlong}{\@gl@hyp@opt\@ns@Acrlong}
\glsmfuaddmap{\Acrlong}{\Acrlong}
\newcommand*{\ns@Acrlong}[2][{}]{%
 \new@ifnextchar[{\@Acrlong{#1}{#2}}{\@Acrlong{#1}{#2}}[{}]}%
}
\def\@Acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlong}{\@gl@hyp@opt\@ns@ACRlong}
\glsmfublocker{\ACRlong}
\newcommand*{\ns@ACRlong}[2][{}]{%
 \new@ifnextchar[{\@ACRlong{#1}{#2}}{\@ACRlong{#1}{#2}}[{}]}%
}
\def\@ACRlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsuppercase{\glentrylong{#2}#3}%
 }%
 }%
}

```

```

 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlongpl}{\@gls@hyp@opt\ns@acrlongpl}
\newcommand*{\ns@acrlongpl}[2][{}]{%
 \new@ifnextchar[{\@acrlongpl{#1}{#2}}{\@acrlongpl{#1}{#2}[]}%
}
\def\@acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlongpl}{\@gls@hyp@opt\ns@Acrlongpl}
\glsmfuaddmap{\Acrlongpl}{\Acrlongpl}
\newcommand*{\ns@Acrlongpl}[2][{}]{%
 \new@ifnextchar[{\@Acrlongpl{#1}{#2}}{\@Acrlongpl{#1}{#2}[]}%
}
\def\@Acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glsapsaps\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlongpl}{\@gls@hyp@opt\ns@ACRlongpl}
\glsmfublocker{\ACRlongpl}
\newcommand*{\ns@ACRlongpl}[2][{}]{%
 \new@ifnextchar[{\@ACRlongpl{#1}{#2}}{\@ACRlongpl{#1}{#2}[]}%
}
\def\@ACRlongpl#1#2[#3]{%

```

```

\glsdoifexists{#2}%
{%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glsescapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsuppercase{\glsentrylongpl{#2}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newcommand*{\@gls@entry@field}[2]{%
 \csuse{glo@\glsdetoklabel{#1}@#2}%
}
\newcommand*{\glsletentryfield}[3]{%
 \letcs{#1}{glo@\glsdetoklabel{#2}@#3}%
}
\newrobustcmd*{\@Gls@entry@field}[2]{%
 \glsdoifexistsordo{#1}%
 {%
 \letcs\@glo@text{glo@\glsdetoklabel{#1}@#2}%
 \ifdef\@glo@text
 {%
 \expandafter\glsentencecase\expandafter{\@glo@text}%
 }%
 {%
 ??\PackageError{glossaries}{The field ‘#2’ doesn’t exist for glossary
 entry ‘\glsdetoklabel{#1}’}{Check you have correctly spelt the entry
 label and the field name}%
 }%
 }%
 }%
 }%
 }%
}
\newcommand{\@Glsentryfield}[2]{%
 \glsstexorpdfstring{\@Gls@entry@field{#1}{#2}}%
 {\MFUsentencecase{\@gls@entry@field{#1}{#2}}}%
}
\ifdef\texorpdfstring
{\newcommand{\glsstexorpdfstring}{\texorpdfstring}}
{\newcommand{\glsstexorpdfstring}[2]{#1}}
\newcommand*{\glsentryname}[1]{\@gls@entry@field{#1}{name}}
\newcommand*{\Glsentryname}[1]{%
 \glsstexorpdfstring{\protect\@Gls@entryname{#1}}%
 {\MFUsentencecase{\@gls@entry@field{#1}{name}}}%
}

```

```

\glsmfuaddmap{\glsentryname}{\Glsentryname}
\newcommand*{\@Gls@entryname}[1]{%
 \@Gls@entry@field{#1}{name}%
}
\newrobustcmd*{\@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \protected@edef\@glo@text{\@gls@entry@field{#1}{name}}%
 \expandafter\glsentencecase\expandafter{\@glo@text}%
 }%
 {%
 \@Gls@entry@field{#1}{name}%
 }%
}
\newcommand*{\@org@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \letcs\@glo@text{glo\@glsdetoklabel{#1}@name}%
 \expandafter\@gls@getbody\@glo@text{}\@nil
 \expandafter\ifx\@gls@body\glsentrylong\relax
 \expandafter\Glsentrylong\@gls@rest
 \else
 \expandafter\ifx\@gls@body\glsentryshort\relax
 \expandafter\Glsentryshort\@gls@rest
 \else
 \expandafter\ifx\@gls@body\acronymfont\relax
 {%
 \let\glsentryshort\Glsentryshort
 \@glo@text
 }%
 \else
 \expandafter\ifx\@gls@body\glsshortaccessdisplay\relax
 {%
 \let\glsentryshort\Glsentryshort
 \@glo@text
 }%
 \else
 \expandafter\glsentencecase\expandafter{\@glo@text}%
 \fi
 \fi
 \fi
 \fi
 }%
 {%
 \@Gls@entry@field{#1}{name}%
 }%
}
\newcommand*{\glsentrydesc}[1]{\@gls@entry@field{#1}{desc}}
\newcommand*{\Glsentrydesc}[1]{\@Gls@entry@field{#1}{desc}}
\glsmfuaddmap{\glsentrydesc}{\Glsentrydesc}

```

```

\newcommand*\glsentrydescplural}[1]{%
 \@gls@entry@field{#1}{descplural}%
}
\newcommand*\Glsentrydescplural}[1]{%
 \@Glsentryfield{#1}{descplural}%
}
\glsmfuaddmap{\glsentrydescplural}{\Glsentrydescplural}
\newcommand*\glsentrytext}[1]{\@gls@entry@field{#1}{text}}
\newcommand*\Glsentrytext}[1]{%
 \@Glsentryfield{#1}{text}%
}
\glsmfuaddmap{\glsentrytext}{\Glsentrytext}
\newcommand*\glsentryplural}[1]{%
 \@gls@entry@field{#1}{plural}%
}
\newcommand*\Glsentryplural}[1]{%
 \@Glsentryfield{#1}{plural}%
}
\glsmfuaddmap{\glsentryplural}{\Glsentryplural}
\newcommand*\glsentrysymbol}[1]{%
 \@gls@entry@field{#1}{symbol}%
}
\newcommand*\Glsentrysymbol}[1]{%
 \@Glsentryfield{#1}{symbol}%
}
\glsmfuaddmap{\glsentrysymbol}{\Glsentrysymbol}
\newcommand*\glsentrysymbolplural}[1]{%
 \@gls@entry@field{#1}{symbolplural}%
}
\newcommand*\Glsentrysymbolplural}[1]{%
 \@Glsentryfield{#1}{symbolplural}%
}
\glsmfuaddmap{\glsentrysymbolplural}{\Glsentrysymbolplural}
\newcommand*\glsentryfirst}[1]{%
 \@gls@entry@field{#1}{first}%
}
\newcommand*\Glsentryfirst}[1]{%
 \@Glsentryfield{#1}{first}%
}
\glsmfuaddmap{\glsentryfirst}{\Glsentryfirst}
\newcommand*\glsentryfirstplural}[1]{%
 \@gls@entry@field{#1}{firstpl}%
}
\newcommand*\Glsentryfirstplural}[1]{%
 \@Glsentryfield{#1}{firstpl}%
}
\glsmfuaddmap{\glsentryfirstplural}{\Glsentryfirstplural}
\newcommand*\glscapitalisewords}[1]{%
 \capitalisewords{#1}%
}

```

```

\newcommand*\glsentrytitlecase}[2]{%
 \glstexorpdfstring
 {\@glsentrytitlecase{#1}{#2}}%
 {\MFUsentencecase{\@gls@entry@field{#1}{#2}}}%
}
\newrobustcmd*\@glsentrytitlecase}[2]{%
 \glsdoifexists{#1}%
 {%
 \glsfieldfetch{#1}{#2}{\@gls@value}%
 \expandafter\glscapitalisewords\expandafter{\@gls@value}%
 }%
}
\newcommand*\glsentrytype}[1]{\@gls@entry@field{#1}{type}}
\newcommand*\glsentrysort}[1]{%
 \@gls@entry@field{#1}{sort}%
}
\newcommand*\glsentryparent}[1]{%
 \@gls@entry@field{#1}{parent}%
}
\newcommand*\glsentryuseri}[1]{%
 \@gls@entry@field{#1}{useri}%
}
\newcommand*\Glsentryuseri}[1]{%
 \@Glsentryfield{#1}{useri}%
}
\glsmfuaddmap{\glsentryuseri}{\Glsentryuseri}
\newcommand*\glsentryuserii}[1]{%
 \@gls@entry@field{#1}{userii}%
}
\newcommand*\Glsentryuserii}[1]{%
 \@Glsentryfield{#1}{userii}%
}
\glsmfuaddmap{\glsentryuserii}{\Glsentryuserii}
\newcommand*\glsentryuseriii}[1]{%
 \@gls@entry@field{#1}{useriii}%
}
\newcommand*\Glsentryuseriii}[1]{%
 \@Glsentryfield{#1}{useriii}%
}
\glsmfuaddmap{\glsentryuseriii}{\Glsentryuseriii}
\newcommand*\glsentryuseriv}[1]{%
 \@gls@entry@field{#1}{useriv}%
}
\newcommand*\Glsentryuseriv}[1]{%
 \@Glsentryfield{#1}{useriv}%
}
\glsmfuaddmap{\glsentryuseriv}{\Glsentryuseriv}
\newcommand*\glsentryuseriv}[1]{%
 \@gls@entry@field{#1}{useriv}%
}
}

```

```

\newcommand*{\Glsentryuser}[1]{%
 \@Glsentryfield{#1}{user}%
}
\glsmfuaddmap{\Glsentryuser}{\Glsentryuser}
\newcommand*{\glsentryuseri}[1]{%
 \@gls@entry@field{#1}{useri}%
}
\newcommand*{\Glsentryuseri}[1]{%
 \@Glsentryfield{#1}{useri}%
}
\glsmfuaddmap{\glsentryuseri}{\Glsentryuseri}
\newcommand*{\glsentryshort}[1]{\@gls@entry@field{#1}{short}}
\newcommand*{\Glsentryshort}[1]{%
 \@Glsentryfield{#1}{short}%
}
\glsmfuaddmap{\glsentryshort}{\Glsentryshort}
\newcommand*{\glsentryshortpl}[1]{\@gls@entry@field{#1}{shortpl}}
\newcommand*{\Glsentryshortpl}[1]{%
 \@Glsentryfield{#1}{shortpl}%
}
\glsmfuaddmap{\glsentryshortpl}{\Glsentryshortpl}
\newcommand*{\glsentrylong}[1]{\@gls@entry@field{#1}{long}}
\newcommand*{\Glsentrylong}[1]{%
 \@Glsentryfield{#1}{long}%
}
\glsmfuaddmap{\glsentrylong}{\Glsentrylong}
\newcommand*{\glsentrylongpl}[1]{\@gls@entry@field{#1}{longpl}}
\newcommand*{\Glsentrylongpl}[1]{%
 \@Glsentryfield{#1}{longpl}%
}
\glsmfuaddmap{\glsentrylongpl}{\Glsentrylongpl}
\newcommand*{\glsentryfull}[1]{%
 \glsentrylong{#1} (\glsentryshort{#1})%
}
\newcommand*{\Glsentryfull}[1]{%
 \Glsentrylong{#1} (\Glsentryshort{#1})%
}
\glsmfuaddmap{\glsentryfull}{\Glsentryfull}
\newcommand*{\glsentryfullpl}[1]{%
 \acrfullformat{\glsentrylongpl{#1}}{\acronymfont{\glsentryshortpl{#1}}}%
}
\newcommand*{\Glsentryfullpl}[1]{%
 \Glsentrylongpl{#1} (\glsentryshortpl{#1})%
}
\glsmfuaddmap{\glsentryfullpl}{\Glsentryfullpl}
\newcommand*{\glsentrynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \@gls@entry@field{#1}{numberlist}%
 }%
}

```



```

}
\@ifpackageloaded{hyperref} {%
 \newcommand*\glsdisplaynumberlist}[1]{%
 \GlossariesWarning
 {%
 \string\glsdisplaynumberlist\space
 doesn't work with hyperref.^^JUsing
 \string\glsentrynumberlist\space instead%
 }%
 \glsentrynumberlist{#1}%
 }%
}%
{%
 \newcommand*\glsdisplaynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \bgroup
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \let\@org@glsnumberformat\glsnumberformat
 \def\glsnumberformat##1{##1}%
 \protected@edef\the@numberlist{%
 \csname glo@\@glo@label @numberlist\endcsname}%
 \def\@gls@numlist@sep{}%
 \def\@gls@numlist@nextsep{}%
 \def\@gls@numlist@lastsep{}%
 \def\@gls@thislist{}%
 \def\@gls@donext@def{}%
 \renewcommand\do[1]{%
 \protected@edef\@gls@thislist{%
 \@gls@thislist
 \noexpand\@gls@numlist@sep
 ##1%
 }%
 \let\@gls@numlist@sep\@gls@numlist@nextsep
 \def\@gls@numlist@nextsep{\glsnumlistsep}%
 \@gls@donext@def
 \def\@gls@donext@def{%
 \def\@gls@numlist@lastsep{\glsnumlistlastsep}%
 }%
 }%
 \expandafter \glsnumlistparser \expandafter{\the@numberlist}%
 \let\@gls@numlist@sep\@gls@numlist@lastsep
 \@gls@thislist
 \egroup
 }%
 }
}
\newcommand*\glsnumlistsep}{, }
\newcommand*\glsnumlistlastsep}{ \& }
\newcommand*\gls hyperlink}[2][\glsentrytext{\@glo@label}]{%

```

```

\def\@glo@label{#2}%
\@glslink{\glo@linkprefix\glsdetoklabel{#2}}{#1}}
\define@key{glossadd}{counter}{\def\@gls@counter{#1}}
\define@key{glossadd}{format}{\def\@glsnumberformat{#1}}
\define@key{glossadd}{types}{\def\@glo@type{#1}}
\newrobustcmd*\glsadd[2] [] {%
 \@gls@adjustmode
 \glsdoifexists{#2}%
 {%
 \def\@glsnumberformat{glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glsdetoklabel{#2}@counter\endcsname}%
 \setkeys{glossadd}{#1}%
 \@gls@saveentrycounter
 \@gls@setsort{#2}%
 \@do@wrglossary{#2}%
 }%
}
\glsmfuexcl{\glsadd}
\newcommand*\@gls@adjustmode{}
\AtBeginDocument{\renewcommand*\@gls@adjustmode{\ifvmode\mbox{}\fi}}
\newrobustcmd*\glsaddall[1] [] {%
 \protected@edef\@glo@type{\@glo@types}%
 \setkeys{glossadd}{#1}%
 \forallglsentries[\@glo@type]{\@glo@entry}{%
 \glsadd[#1]{\@glo@entry}%
 }%
}
\newrobustcmd*\glsaddallunused[1][\@glo@types]{%
 \forallglsentries[#1]{\@glo@entry}%
 {%
 \ifglsused{\@glo@entry}{\glsadd[format=glsignore]{\@glo@entry}}%
 }%
}
\newcommand*\glsignore[1]{}
\edef\glsopenbrace{\expandafter@gobble\string\{ }
\edef\glsclosebrace{\expandafter@gobble\string\} }
\edef\glsbackslash{\expandafter@gobble\string\ }
\edef\glsquote#1{\string"#1\string"}
\edef\glspercentchar{\expandafter@gobble\string\% }
\edef\glsstildechar{\string~ }
\ifglsxindy
 \newcommand*\@glsfirstletter}{A}
\fi
\newcommand*\GlsSetXdyFirstLetterAfterDigits{%
 \@ifstar\s@GlsSetXdyFirstLetterAfterDigits\@GlsSetXdyFirstLetterAfterDigits}
\ifglsxindy
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits[1]{%
 \renewcommand*\@glsfirstletter}{#1}}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits[1]{%
 \renewcommand*\@glsfirstletter}{#1}}

```

```

 \@onelevel@sanitize\@glsfirstletter
 }
\else
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \glsnoxywarning\GlsSetXdyFirstLetterAfterDigits}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits}{%
 \@GlsSetXdyFirstLetterAfterDigits
 }
\fi
\ifglsxindy
 \newcommand*\@xdynumbergrouporder}{:before \string"\@glsfirstletter\string"}
\fi
\newcommand*\GlsSetXdyNumberGroupOrder}[1]{%
 \@ifstar\s@GlsSetXdyNumberGroupOrder\@GlsSetXdyNumberGroupOrder
}
\ifglsxindy
 \newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*\@xdynumbergrouporder}{#1}%
 }
 \newcommand*\s@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*\@xdynumbergrouporder}{#1}%
 \@onelevel@sanitize\@xdynumbergrouporder
 }
\else
 \newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
 \glsnoxywarning\GlsSetXdyNumberGroupOrder}
 \newcommand*\s@GlsSetXdyNumberGroupOrder}{%
 \@GlsSetXdyNumberGroupOrder}
\fi
\newcommand*\@glsminrange}{2}
\ifglsxindy
 \newcommand*\GlsSetXdyMinRangeLength}[1]{%
 \renewcommand*\@glsminrange}{#1}}
\else
 \newcommand*\GlsSetXdyMinRangeLength}[1]{%
 \glsnoxywarning\GlsSetXdyMinRangeLength}
\fi

\ifglsxindy
 \def\writeist{%
 \ifundef{\glswrite}{\newwrite\glswrite}{}%
 \@gls@addpredefinedattributes
 \openout\glswrite=\istfilename
 \write\glswrite{;; xindy style file created by the glossaries
 package}%
 \write\glswrite{;; for document '\jobname' on
 \the\year-\the\month-\the\day}%
 \write\glswrite{^^J; required styles^^J}
 \@for\@xdystyle:=\@xdyrequiredstyles\do{%
 \ifx\@xdystyle\@empty

```

```

 \else
 \protected@write\glswrite{}\{(require
 \string"\xdystyle.xdy\string")\}%
 \fi
}%
\write\glswrite{^^J%
 ; list of allowed attributes (number formats)^^J}%
\write\glswrite{(define-attributes ((\@xdyattributes)))}%
\write\glswrite{^^J; user defined alphabets^^J}%
\write\glswrite{\@xdyuseralphabets}%
\write\glswrite{^^J; location class definitions^^J}%
\@for\@gls@classI:=\@gls@xdy@locationlist\do{%
 \protected@write\glswrite{}\{(define-location-class
 \string"\@gls@classI\string"^^J\space\space\space
 (
 :sep "{{"
 \csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
 :sep "}"
)
 ^^J\space\space\space
 :min-range-length \@glsminrange^^J%
)
}%
{%
 \@for\@gls@classII:=\@gls@xdy@locationlist\do{%
 \protected@write\glswrite{}\{(define-location-class
 \string"\@gls@classII-\@gls@classI\string"
 ^^J\space\space\space
 (
 :sep "{"
 \csname @gls@xdy@Lclass@\@gls@classII\endcsname\space
 :sep "}"
 \csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
 :sep "}"
)
 ^^J\space\space\space
 :min-range-length \@glsminrange^^J%
)
 }%
}%
}%
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
 :unverified)}%
\write\glswrite{(markup-crossref-list
 :class \string"see\string"^^J\space\space\space
 :open \string"\string\glsseeformat\string"

```

```

 :close \string"{}\string"}}%
\@xdycrossrefhook
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
 (\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
 :open \string"\string
 \glossarysection[\string\glossarytoctitle]{\string
 \glossarytitle}\string\glossarypreamble}%
\@for\@this@ctr:=\@xdycounters\do{%
 {%
 \@for\@this@attr:=\@xdyattributelist\do{%
 \protected@write\glswrite{ }\string\providecommand*%
 \expandafter\string
 \csname glsX\@this@ctr X\@this@attr\endcsname[2]%
 {%
 \string\setentrycounter
 [\expandafter\@gobble\string\#1]{\@this@ctr}%
 \expandafter\string
 \csname\@this@attr\endcsname
 {\expandafter\@gobble\string\#2}%
 }%
 }%
 }%
}%
\write\glswrite{%
 \string\begin
 {theglossary}\string\glossaryheader\glstildechar n\string" ^^J\space
 \space\space:close \string"\glspercentchar\glstildechar n\string
 \end{theglossary}\string\glossarypostamble
 \glstildechar n\string" ^^J\space\space\space
 :tree}}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \glstildechar n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\glsclosebrace\string")}%
\write\glswrite{(markup-locref-list
 :sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
 :sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffiXF
\@onelevel@sanitize\gls@suffiFF

```

```

\ifx\gls@suffiF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffiF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffiFF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffiFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
 :open-head \string"\string\glsgroupheading
 \glsopenbrace\string"^^J\space\space\space
 :close-head \string"\glsclosebrace\string")}%
\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{\@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}%
\write\glswrite{\@xdysortrules}%
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
\let\noist\@gls@noist@toolate
}
\else
\edef\@gls@actualchar{\string?}
\edef\@gls@encapchar{\string|}
\edef\@gls@levelchar{\string!}
\edef\@gls@quotechar{\string"}%
\let\GlsSetQuote\gls@nosetquote
\def\writeist{\relax
\ifundef{\glswrite}{\newwrite\glswrite}{}\relax
\openout\glswrite=\istfilename
\write\glswrite{\glspercentchar\space makeindex style file
 created by the glossaries package}
\write\glswrite{\glspercentchar\space for document
 '\jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '\@gls@actualchar'}
\write\glswrite{encap '\@gls@encapchar'}
\write\glswrite{level '\@gls@levelchar'}
\write\glswrite{quote '\@gls@quotechar'}
\write\glswrite{keyword \string"\string\glossaryentry\string"}
\write\glswrite{preamble \string"\string\glossarysection[\string
 \glossarytoctitle]{\string\glossarytitle}\string
 \glossarypreamble\string\n\string\begin{theglossary}\string

```

```

 \glossaryheader\string\n\string"}
\write\glswrite{postamble \string"\string%\string\n\string
 \end{theglossary}\string\glossarypostamble\string\n
 \string"}
\write\glswrite{group_skip \string"\string\glsgroupskip\string\n
 \string"}
\write\glswrite{item_0 \string"\string%\string\n\string"}
\write\glswrite{item_1 \string"\string%\string\n\string"}
\write\glswrite{item_2 \string"\string%\string\n\string"}
\write\glswrite{item_01 \string"\string%\string\n\string"}
\write\glswrite{item_x1
 \string"\string\relax \string\glsresetentrylist\string\n
 \string"}
\write\glswrite{item_12 \string"\string%\string\n\string"}
\write\glswrite{item_x2
 \string"\string\relax \string\glsresetentrylist\string\n
 \string"}
\write\glswrite{delim_0 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_1 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_2 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string"}
\write\glswrite{delim_t \string"\string\}\string}\string"}
\write\glswrite{delim_n \string"\string\delimN \string"}
\write\glswrite{delim_r \string"\string\delimR \string"}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
 \string"\string\glsgroupheading\string\{\string"}
\write\glswrite{heading_suffix
 \string"\string}\string\relax
 \string\glsresetentrylist \string"}
\write\glswrite{symhead_positive \string"glssymbols\string"}
\write\glswrite{numhead_positive \string"glnumbers\string"}
\write\glswrite{page_compositor \string"glscompositor\string"}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
\let\noist\@gls@noist@toolate
}

```

```

\fi
\newcommand*\GlsSetWriteIstHook}[1]{\renewcommand*\@gls@writeisthook}{#1}}
\@onlypremake\GlsSetWriteIstHook
\newcommand*\@gls@writeisthook}{
\ifglsxindy
\newcommand*\GlsSetQuote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\newcommand*\gls@nosetquote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\else
\newcommand*\GlsSetQuote}[1]{\edef\@gls@quotechar{\string#1}%
\ifpackageloaded{tracklang}%
{%
\IfTrackedLanguage{german}%
{%
\def\@gls@extramakeindexopts{-g}%
}%
}%
}%
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkquote####1#1####2#1####3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={####1}%
\noexpand\ifx\noexpand\null####2\noexpand\null
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote####3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote####2#1#1\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote####2#1####3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkquote
}%
}%

```



```

\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
 \noexpand\renewcommand{\noexpand\@gls@checkmkidxchars}[1]{%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkquote####1\noexpand\@nil
 #1#1\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkesquote####1\noexpand\@nil
 \expandonce{\csname#1\endcsname}\expandonce{\csname#1\endcsname}%
 \noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkesactual####1\noexpand\@nil
 \noexpand\?\noexpand\?\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkactual####1\noexpand\@nil
 \noexpand?\noexpand?\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkbar####1\noexpand\@nil
 \noexpand|\noexpand|\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkeschar####1\noexpand\@nil
 \noexpand\\|\noexpand\\|\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checklevel####1\noexpand\@nil
 \noexpand!\noexpand!\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkescllevel####1\noexpand\@nil
 \noexpand\!\noexpand\!\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 \noexpand\def\noexpand\@gls@checkedmkidx{%
 \noexpand\expandafter\noexpand\@gls@checkesc####1\noexpand\@nil
 \@backslashchar\@backslashchar\noexpand\null
 \noexpand\expandafter\noexpand\@gls@updatechecked
 \noexpand\@gls@checkedmkidx{####1}%
 }%

```

```

}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
 \noexpand\def\noexpand\@gls@checkescquote####1%
 \expandonce{\csname#1\endcsname}####2\expandonce{\csname#1\endcsname}%
 ####3\noexpand\null{%
 \noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
 \noexpand\toks@={####1}%
 \noexpand\ifx\noexpand\null####2\noexpand\null
 \noexpand\ifx\noexpand\null####3\noexpand\null
 \noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
 \noexpand\def\noexpand\@gls@checkescquote{\noexpand\relax}%
 \noexpand\else
 \noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
 \noexpand\@gls@quotechar\noexpand\string\expandonce{%
 \csname#1\endcsname}\noexpand\@gls@quotechar
 \noexpand\@gls@quotechar\noexpand\string\expandonce{%
 \csname#1\endcsname}\noexpand\@gls@quotechar}%
 \noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####3\noexpand\null}%
 \noexpand\fi
 \noexpand\else
 \noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
 \noexpand\@gls@quotechar\noexpand\string
 \expandonce{\csname#1\endcsname}\noexpand\@gls@quotechar}%
 \noexpand\ifx\noexpand\null####3\noexpand\null
 \noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####2\expandonce{\csname#1\endcsname}%
 \expandonce{\csname#1\endcsname}\noexpand\null}%
 \noexpand\else
 \noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####2\expandonce{\csname#1\endcsname}%
 ####3\noexpand\null}%
 \noexpand\fi
 \noexpand\fi
 \noexpand\@gls@checkescquote
 }%
 }%
 }%
\@gls@docheckquotedef
}
\newcommand*\@gls@nosetquote}[1]{\PackageError{glossaries}%
 {\string\GlsSetQuote\space not permitted here}%
 {\Move \string\GlsSetQuote\space earlier in the preamble, as
 soon as possible after glossaries.sty has been loaded}}
\fi
\newcommand*\@gls@extramakeindexopts}[1]{
\newcommand{\noist}{%

```

```

\@gls@addpredefinedattributes
\let\writeist\relax
}
\newcommand{\@gls@noist@toolate}{%
\GlossariesWarning{too late to use \string\noist. The style file
has already been written}%
}
\newcommand*{\@makeglossary}[1]{%
\ifglossaryexists{#1}%
{%
\ifglssavewrites
\expandafter\newtoks\csname glo@#1@filetok\endcsname
\else
\expandafter\newwrite\csname glo@#1@file\endcsname
\expandafter\@glsopenfile\csname glo@#1@file\endcsname{#1}%
\fi
\@gls@renewglossary
\writeist
}%
{%
\PackageError{glossaries}%
{Glossary type ‘#1’ not defined}%
{New glossaries must be defined before using \string\makeglossaries}%
}%
}
\newcommand*{\@glsopenfile}[2]{%
\immediate\openout#1=\jobname.\csname @glotype@#2@out\endcsname
\PackageInfo{glossaries}{Writing glossary file
\jobname.\csname @glotype@#2@out\endcsname}%
}
\newcommand*{\@closegls}[1]{%
\closeout\csname glo@#1@file\endcsname
}
\ifglsexindy
\newcommand*{\@gls@automake}[1]{%
\ifglossaryexists{#1}
{%
\@closegls{#1}%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-M ord/letorder }}%
{\let\@gls@order\@empty}%
\gls@xdy@set@lang{#1}%
\ifdefvoid\gls@codepage
{\let\@gls@codepage\@empty}%
{\def\@gls@codepage{-C \gls@codepage\space}}%
\edef\@gls@dothiswrite{\noexpand\write18{xindy
-I xindy
\@gls@order
-L \@gls@langmod\space
-M \gls@istfilebase\space

```

```

 \@gls@codepage
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}%
 }%
 \@gls@dothiswrite
}
{
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}
}
\else
\newcommand*{\@gls@automake}[1]{%
 \ifglossaryexists{#1}
 {%
 \@closegls{#1}%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-1 }}%
 {\let\@gls@order\@empty}%
 \edef\@gls@dothiswrite{\noexpand\write18{makeindex \@gls@order
 -s \listfilename\space
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}}%
 }%
 \@gls@dothiswrite
 }%
 {
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
 }%
}
\fi
\ifglsxindy
\newcommand*{\@gls@automake@immediate}[1]{%
 \ifglossaryexists{#1}
 {%
 \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
 {%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-M ord/letorder }}%
 {\let\@gls@order\@empty}%
 \gls@xdy@set@lang{#1}%
 \ifdefvoid\gls@codepage
 {\let\@gls@codepage\@empty}%
 {\def\@gls@codepage{-C \gls@codepage\space}}%
 \edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{xindy
 -I xindy
 \@gls@order
 -L \@gls@langmod\space
 -M \gls@istfilebase\space

```

```

 \@gls@codepage
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}%
 }%
 \@gls@dothiswrite
}
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\else
\newcommand*{\@gls@automake@immediate}[1]{%
 \ifglossaryexists{#1}
 {%
 \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
 {%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-l }}%
 {\let\@gls@order\@empty}%
 \edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{makeindex \@gls@order
 -s \istfilename\space
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}%
 }%
 \@gls@dothiswrite
 }%
 {\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
 doesn't exist. Rerun may be required}}%
 }%
 {
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
 }%
}
\fi
\newcommand*{\@warn@nomakeglossaries}{}
\newcommand*{\@warn@nomakeglossaries}{\@warn@nomakeglossaries}
\newcommand{\@gls@automake@types}{\@glo@types}
\newcommand{\@gls@automake@immediate}{%
 \ifnum\gls@automake@nr=2\relax
 \protected@edef\gls@tmp{\@gls@automake@types}%
 \@for\@gls@type:=\gls@tmp\do{%
 \ifdefempty{\@gls@type}{%
 {\@gls@automake@immediate{\@gls@type}}%
 }%
 }
 }%
\glsautomakefalse

```

```

\renewcommand*{\@gls@doautomake}{}%
\else
\ifdefempty\gls@automake@makegloss{}%
{%
\IfFileExists{\jobname.aux}%
{\immediate\write18{\gls@automake@makegloss\space \jobname}}{}%
\glsautomakefalse
\renewcommand*{\@gls@doautomake}{}%
}%
\fi
}
\newcommand*{\makeglossaries}{%
\ifglxindy
\def\glsindexingsetting{xindy}%
\else
\def\glsindexingsetting{makeindex}%
\fi
\@domakeglossaries
{%
\@gls@@automake@immediate
\ifundef\glswrite{\newwrite\glswrite}{}%
\protected@write\@auxout{\string\providecommand\string\@glsorder[1]}{}
\protected@write\@auxout{\string\providecommand\string\@istfilename[1]}{}
\ifundef\@gls@extramakeindexopts
{}%
{%
\protected@write\@auxout{\string\providecommand
\string\@gls@extramakeindexopts[1]}{}
\protected@write\@auxout{\string\@gls@extramakeindexopts
{\@gls@extramakeindexopts}}%
}%
\protected@write\@auxout{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{\string\@glsorder{\glsorder}}
\@for\@glo@type:=\@glo@types\do{%
\ifthenelse{\equal{\@glo@type}}{}{}%
\@makeglossary{\@glo@type}}%
}%
\renewcommand*\newglossary[4]{}%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%
\let\@makeglossary\@gobble
\let\makeglossaries\relax
\@disable@onlypremakeg
\let\gls@checkseeallowed\relax
\let\warn@nomakeglossaries\relax
\let\warn@noprintglossary\@makeglossaries@warn@noprintglossary
\ifglssavenumberlist
\edef\@gls@dodolistparser{\noexpand\DeclareListParser

```

```

 {\noexpand\glsnumlistparser}{\delimN}}%
 \@gls@dodedeflistparser
\fi
\let\makenoidxglossaries\@no@makeglossaries
\renewcommand*{\@printgloss@setsort}{%
 \let\@glo@assign@sortkey\@glo@no@assign@sortkey
}%
\ifglsautomake
 \renewcommand*{\@gls@doautomake}{%
 \protected@edef\gls@tmp{\@gls@automake@types}%
 \@for\@gls@type:=\gls@tmp\do{%
 \ifdefempty{\@gls@type}{%
 {\@gls@automake{\@gls@type}}%
 }%
 }%
 }%
\fi
\@glo@check@sortallowed\makeglossaries
}%
}
\@onlypreamble{\makeglossaries}
\newcommand\@makeglossaries@warn@noprntglossary{%
 \ifdefstring{\@glo@types}{,}%
 {%
 \GlossariesWarningNoLine{No glossaries have been defined}%
 }%
 {%
 \GlossariesWarningNoLine{No \string\printglossary\space
 or \string\printglossaries\space
 found. ^^J(Remove \string\makeglossaries\space if you
 don't want any glossaries.) ^^JThis document will not
 have a glossary}%
 }%
}%
\AtEndDocument{%
 \warn@nomakeglossaries
 \warn@noprntglossary
}
\newcommand*\makenoidxglossaries{%
 \def\glsindexingsetting{noidx}%
 \@domakeglossaries
 {%
 \renewcommand{\@gls@noref@warn}[1]{%
 \GlossariesWarning{Empty glossary for
 \string\printnoidxglossary[type={##1}].
 Rerun may be required (or you may have forgotten to use
 commands like \string\gls)}%
 }%
 \let\@gls@checkmkidxchars\@gobble
 \glsesclocationsfalse
 \let\@do@wrglossary\gls@noidxglossary
 }%
}

```

```

\let@gls@getgrouptitle@gls@noidx@getgrouptitle
\let@gls@checkseeallowed@relax
\renewcommand{\@do@seeglossary}[2]{%
 \protected@edef@gls@label{\glsdetoklabel{##1}}%
 \protected@write@auxout{}{%
 \string@gls@reference
 {\csname glo@%gls@label @type\endcsname}%
 {\@gls@label}%
 {%
 \string@glsseeformat##2}%
 }%
 }%
}%
\AtBeginDocument
{%
 \write@auxout{\string\providecommand\string@gls@reference[3]{}%
}%
\def\warn@noprintglossary{%
 \GlossariesWarningNoLine{No \string\printnoidxglossary\space
 or \string\printnoidxglossaries ^^J
 found. (Remove \string\makenoidxglossaries\space if you
 don't want any glossaries.)^^JThis document will not have a glossary}%
}%
\let\warn@nomakeglossaries@relax
\let\makeglossaries@no@makeglossaries
\renewcommand*{\@printgloss@setsort}{%
 \let@glo@assign@sortkey@glo@assign@sortkey
 \def@glo@sorttype@glo@default@sorttype}%
}%
\renewcommand*\new@glossaryentry[2]{%
 \PackageError{glossaries}{Glossary entries must be
 defined in the preamble^^Jwhen you use
 \string\makenoidxglossaries}%
 {Either move your definitions to the preamble or use
 \string\makeglossaries}%
}%
\renewcommand*{\glsentrynumberlist}[1]{%
 \letcs{@gls@loclist}{glo@glsdetoklabel{##1}@loclist}%
 \ifdef@gls@loclist
 {%
 \glsnoidxloclist{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for '##1'. Either
 a rerun is required or you haven't referenced the entry}%
 }%
 }%
}%

```



```

\renewcommand*{\glsdisplaynumberlist}[1]{%
 \letcs{\@gls@loclist}{glo@glsdetoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \glsnumlistsep
 }%
 }%
 }%
 \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
 }%
 \def\@gls@noidxloclist@finalsep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
 \@gls@noidxloclist@finalsep
 \@gls@noidxloclist@prev
}%
{%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
}%
\renewcommand*{\glsnumberlistloop}[3]{%
 \letcs{\@gls@loclist}{glo@glsdetoklabel{##1}@loclist}%
 \let\@gls@org@glsnoidxdisplayloc\glsnoidxdisplayloc
 \let\@gls@org@glsseeformat\glsseeformat
 \let\glsnoidxdisplayloc##2\relax
 \let\glsseeformat##3\relax
 \ifdef\@gls@loclist
 {%
 \forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
 }%
 \let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
 \let\glsseeformat\@gls@org@glsseeformat
}%
\let\@gls@sanitizesort\@gls@noidx@sanitizesort
\let\@gls@nosanitizesort\@gls@noidx@nosanitizesort
\@gls@noidx@setsanitizesort
\@glo@check@sortallowed\makenoidxglossaries

```

```

\let\@gls@savenonumberlist\gls@noidx@nonumberlist
}%
}
\@onlypreamble{\makenoidxglossaries}
\newcommand*\glsnumberlistloop}[3]{%
 \PackageError{glossaries}{\string\glsnumberlistloop\space
 only works with \string\makenoidxglossaries}{}%
}
\newcommand*\glsnoidxnumberlistloophandler}[1]{%
 #1%
}
\newcommand*\@no@makeglossaries}{%
 \PackageError{glossaries}{You can't use both
 \string\makeglossaries\space and \string\makenoidxglossaries}%
 {Either use one or other (or none) of those commands but not both
 together.}%
}
\newcommand{\@gls@noref@warn}[1]{%
 \GlossariesWarning{\string\makenoidxglossaries\space
 is required to make \string\printnoidxglossary[type=#1] work}%
}
\newcommand*\gls@noidxglossary}{%
 \protected@write\@auxout{\gls@wrglossdisablelocationcmds}{%
 \string\@gls@reference
 {\csname glo@\@gls@label @type\endcsname}%
 {\@gls@label}%
 {\string\glsnoidxdisplayloc
 {\@glo@counterprefix}%
 {\@gls@counter}%
 {\@glsnumberformat}%
 {\@gls@locref}}%
 }%
 }%
}
\AtEndDocument{%
 \gls@writefiles
}
\newcommand*\@gls@writefiles}{%
 \foralllglossaries{\@glo@type}{%
 \ifcsundef{glo@\@glo@type @filetok}%
 {%
 \def\gls@tmp{}%
 }%
 {%
 \edef\gls@tmp{\expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 }%
 \ifx\gls@tmp\@empty
 \ifx\@glo@type\gls@defaulttype
 \GlossariesWarningNoLine{Glossary '\@glo@type' has no

```

```

 entries.^^JRemember to use package option ‘nomain’ if
you
 don’t want to^^Juse the main glossary}%
 \else
 \GlossariesWarningNoLine{Glossary ‘\@glo@type’ has no
 entries}%
 \fi
 \else
 \@glsopenfile{\glswrite}{\@glo@type}%
 \immediate\write\glswrite{%
 \expandafter\the
 \csname glo@\@glo@type @filetok\endcsname}%
 \immediate\closeout\glswrite
 \fi
}%
}
\newcommand*{\gls@glossary}[1]{%
 \@gls@glossary{#1}%
}
\newcommand*{\@gls@glossary}[2]{%
 \if@gls@debug
 \PackageInfo{glossaries}{wrglossary(#1)(#2)}%
 \fi
}
\newcommand{\@gls@renewglossary}{%
 \gdef\@gls@glossary##1{\@bsphack\begin@group\gls@wrglossary{##1}}%
 \let\@gls@renewglossary\@empty
}
\newcommand*{\gls@wrglossary}[2]{%
 \ifglssavewrites
 \protected@edef\@gls@tmp{\the\csname glo@#1@filetok\endcsname#2}%
 \expandafter\global\expandafter\csname glo@#1@filetok\endcsname
 \expandafter{\@gls@tmp^^J}%
 \else
 \ifcsdef{glo@#1@file}%
 {%
 \expandafter\protected@write\csname glo@#1@file\endcsname{%
 \gls@disablepagerefexpansion}{#2}%
 }%
 {%
 \ifignoredglossary{#1}{}%
 {%
 \GlossariesWarning{No file defined for glossary ‘#1’}%
 }%
 }%
 \fi
 \endgroup\@esphack
}
\newcommand*{\@do@wrglossary}[1]{%
 \gls@ifnotmeasuring{\glswriteentry{#1}{\@do@wrglossary{#1}}}%
}

```

```

}
\newcommand*\glswriteentry}[2]{%
 \ifglsindexonlyfirst
 \ifglsused{#1}{#2}%
 \else
 #2%
 \fi
}
\newcommand{\gls@protected@pagefmts}{\gls@numberpage,\gls@alphpage,%
\gls@Alphpage,\gls@romanpage,\gls@Romanpage,\gls@arabicpage}
\newcommand*\gls@disablepagerefexpansion{%
\glswrglossdisablelocationcmds
\ifglsesclocations
 \@for\@gls@this:=\gls@protected@pagefmts\do
 {%
 \expandafter\let\@gls@this\relax
 }%
\fi
}
\newcommand{\glswrglossdisablelocationcmds}{}
\newcommand*\gls@alphpage}{\@Alph\c@page}
\newcommand*\gls@Alphpage}{\@Alph\c@page}
\newcommand*\gls@numberpage}{\number\c@page}
\newcommand*\gls@arabicpage}{\@arabic\c@page}
\newcommand*\gls@romanpage}{\romannumeral\c@page}
\newcommand*\gls@Romanpage}{\@Roman\c@page}
\newcommand*\glsaddprotectedpagefmt}[1]{%
 \ifglsesclocations
 \protected@eappto\gls@protected@pagefmts{\expandonce{\csname gls#1page\endcsname}}%
 \csedef{gls#1page}{\expandonce{\csname#1\endcsname}\noexpand\c@page}%
 \protected@eappto\@wrglossarynumberhook{%
 \noexpand\let\expandonce{\csname org@gls#1\endcsname}%
 \expandonce{\csname#1\endcsname}%
 \noexpand\def\expandonce{\csname#1\endcsname}{%
 \noexpand\@wrglossary@pageformat
 \expandonce{\csname gls#1page\endcsname}%
 \expandonce{\csname org@gls#1\endcsname}%
 }%
 }%
 \else
 \GlsWarnAddProtectedPageFmt
 \fi
}
\newcommand{\GlsWarnAddProtectedPageFmt}{%
 \GlossariesWarning{\string\glsaddprotectedpagefmt\space has no
 effect with esclocations=false}%
}
\newcommand*\@wrglossarynumberhook{}
\newcommand{\@wrglossary@pageformat}[3]{%
 \ifx#3\c@page #1\else #2#3\fi
}

```

```

}
\newcommand*{\@do@wrglossary}[1]{%
 \ifglsclocations
 \@do@esc@wrglossary{#1}%
 \else
 \@do@noesc@wrglossary{#1}%
 \fi
}
\newcommand{\glswrglossdisableanchorcmds}{\let\glstexorpdfstring\@secondoftwo}
\ifdef\texorpdfstring
 {\appto\glswrglossdisableanchorcmds{\let\texorpdfstring\@secondoftwo}}{}
\ifdef\pdfstringdefPreHook
 {\appto\glswrglossdisableanchorcmds{\pdfstringdefPreHook}}{}
\newcommand{\glswrglosslocationtarget}[1]{#1}
\newcommand{\glswrglosslocationtextfmt}[1]{#1}
\newcommand*{\@do@noesc@wrglossary}[1]{%
 \expandafter\def\expandafter\@glslocref\expandafter{\theglsentrycounter}%
 \expandafter\def\expandafter\@glsHlocref\expandafter{\theHglentrycounter}%
 \ifx\@glsHlocref\@glslocref
 \def\@glo@counterprefix{}%
 \else
 \xp@gls@getcounterprefix{\@glslocref}{\@glsHlocref}%
 \fi
 \protected@edef\@gls@label{\glsdetoklabel{#1}}%
 \@do@@wrglossary
}
\newif\ifglswrallowprimitivemods
\glswrallowprimitivemodsfalse
\newcommand*{\@do@esc@wrglossary}[1]{% please read documented code!
 \begingroup
 \let\gls@orgthe\the
 \let\gls@orgnumber\number
 \let\gls@orgarabic\@arabic
 \let\gls@orgromannumeral\romannumeral
 \let\gls@orgalph\@alph
 \let\gls@orgAlph\@Alph
 \let\gls@orgRoman\@Roman
 \ifglswrallowprimitivemods
 \def\gls@the##1{%
 \ifx##1\c@page \gls@numberpage\else\gls@orgthe##1\fi}%
 \def\the{\expandafter\gls@the}%
 \def\gls@number##1{%
 \ifx##1\c@page \gls@numberpage\else\gls@orgnumber##1\fi}%
 \def\number{\expandafter\gls@number}%
 \def\romannumeral##1{%
 \ifx##1\c@page \gls@romanpage \else \gls@orgromannumeral##1\fi}%
 \fi
 \def\@arabic##1{%
 \ifx##1\c@page \gls@arabicpage\else\gls@orgarabic##1\fi}%
 \def\@Roman##1{%

```

```

 \ifx##1\c@page \gls@Romanpage\else\gls@orgRoman##1\fi}%
\def\@alph##1{%
 \ifx##1\c@page \gls@alphpage\else\gls@orgalph##1\fi}%
\def\@Alph##1{%
 \ifx##1\c@page \gls@Alphpage\else\gls@orgAlph##1\fi}%
\@wrglossarynumberhook
\gls@disablepagerefexpansion
\protected@xdef\gls@locref{\theglsentrycounter}%
\endgroup
\@gls@checkmkidxchars\@gls@locref
\expandafter\ifx\theglsentrycounter\theglsentrycounter\relax
\def\@glo@counterprefix{%
\else
\protected@edef\@gls@Hlocref{\theglsentrycounter}%
\@gls@checkmkidxchars\@gls@Hlocref
\@xp@gls@getcounterprefix{\@gls@locref}{\@gls@Hlocref}%
\fi
\protected@edef\@gls@label{\gls@detoklabel{#1}}%
\@do@@wrglossary
}
\newcommand*{\@do@@wrglossary}{%
\ifglxindy
\expandafter\@glo@check@mkidxrangechar\@gls@numberformat\@nil
\def\@glo@range{%
\expandafter\if\@glo@prefix\relax
\def\@glo@range{:open-range}%
\else
\expandafter\if\@glo@prefix\relax
\def\@glo@range{:close-range}%
\fi
\fi
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
(indexentry :tkey (\csname glo@\@gls@label @index\endcsname)
:locref \string"\@glo@counterprefix}{\@gls@locref}\string" %
:attr \string"\@gls@counter\@glo@suffix\string"
\@glo@range
)
}%
\else
\@set@glo@numformat{\@glo@numfmt}{\@gls@counter}{\@gls@numberformat}%
{\@glo@counterprefix}%
\gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
\string\glossaryentry{\csname glo@\@gls@label @index\endcsname
\@gls@encapchar\@glo@numfmt}{\@gls@locref}}%
\fi
}
\newcommand*\@xp@gls@getcounterprefix[2]{%
\bgroup
\gls@wrglossdisableanchorcmds
\protected@edef\@do@gls@getcounterprefix{%

```

```

 \noexpand\egroup
 \noexpand\@gls@getcounterprefix{#1}{#2}%
 }%
 \do@gls@getcounterprefix
}
\newcommand*\@gls@getcounterprefix[2]{%
 \def\@gls@thisloc{#1}\def\@gls@thisHloc{#2}%
 \ifx\@gls@thisloc\@gls@thisHloc
 \def\@glo@counterprefix{}%
 \else
 \def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
 \def\@glo@tmp{##2}%
 \ifx\@glo@tmp\@empty
 \def\@glo@counterprefix{}%
 \else
 \def\@glo@counterprefix{##1}%
 \fi
 }%
 \@gls@get@counterprefix#2.#1\end@getprefix
 \ifx\@glo@counterprefix\@empty
 \GlossariesWarning{Hyper target ‘#2’ can’t be formed by
 prefixing^^Jlocation ‘#1’. You need to modify the
 definition of \string\theH\@gls@counter^^Jotherwise you
 will get the warning: "‘name{\@gls@counter.#1}’ has been^^J
 referenced but does not exist"%
 \fi
 \fi
}
\newcommand{\@do@seeglossary}[2]{%
 \def\@gls@xref{#2}%
 \@onelevel@sanitize\@gls@xref
 \@gls@checkmkidxchars\@gls@xref
 \ifglsxindy
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 (indexentry
 :key (\csname glo@#1@index\endcsname)
 :xref (\string"\@gls@xref\string")
 :attr \string"see\string"
)
 }%
 \else
 \gls@glossary{\csname glo@#1@type\endcsname}{%
 \string\glossaryentry{\csname glo@#1@index\endcsname
 \@gls@encapchar glsseeformat\@gls@xref}{Z}}%
 \fi
 }
}
\def\@gls@fixbraces#1#2#3\@nil{%
 \if#2[\relax
 \@gls@fixbraces#1#2#3\@end@fixbraces
 \else

```

```

 \def#1{#2#3}%
 \fi
}
\def\@gls@fixbraces#1[#2]#3\end@fixbraces{%
 \def#1{[#2]{#3}}%
}
\newrobustcmd*\glssee[3][\seename]{%
 \do@seeglossary{#2}{#1}{#3}}
\newcommand*\@glssee[3][\seename]{%
 \glssee[#1]{#3}{#2}}
\newrobustcmd*\glsseeformat[3][\seename]{%
 \emph{#1} \glsseelist{#2}}
\newrobustcmd*\glsseelist[1]{%
 \let\@gls@dolast\relax
 \let\@gls@donext\relax
 \@for\@gls@thislabel:=#1\do{%
 \ifx\@xfor@nextelement\@nnil
 \@gls@dolast
 \else
 \@gls@donext
 \fi
 \expandafter\glsseeitem\expandafter{\@gls@thislabel}%
 \let\@gls@dolast\glsseelastsep
 \let\@gls@donext\glsseesep
 }%
}
\newcommand*\glsseelastsep{\space\andname\space}
\newcommand*\glsseesep{, }
\newrobustcmd*\glsseeitem[1]{\glshyperlink[\glsseeitemformat{#1}]{#1}}
\newcommand*\glsseeitemformat[1]{%
 \ifglshashshort{#1}{\glsentrytext{#1}}{\glsentryname{#1}}%
}
\newcommand*\gls@save@numberlist[1]{%
 \ifglssavenumberlist
 \toks@{#1}%
 \protected@edef\@do@writeaux@info{%
 \noexpand\csgdef{glo@glscurrententrylabel @numberlist}{\the\toks@}%
 }%
 \@onelevel@sanitize\@do@writeaux@info
 \protected@write\@auxout{\@do@writeaux@info}%
 \fi
}
\newcommand*\warn@noprntglossary{}%
\ifcsundef{printglossary}{}%
{}%
 \@gls@warnonglossdefined
 \undef\printglossary
}
\newcommand*\@printgloss@checkexists@noignored[2]{%
 \@ifglossaryexists{#1}%

```



```

{#2}%
{%
 \ifignoredglossary{#1}%
 {\GlossariesWarning{Glossary '#1' is an ignored glossary}}%
 {\GlossariesWarning{Glossary '#1' doesn't exist}}%
}%
}
\newcommand*{\@printgloss@checkexists@allowignored}[2]{%
 \s@ifglossaryexists{#1}%
 {#2}%
 {\GlossariesWarning{Glossary '#1' doesn't exist}}%
}
\let\@printgloss@checkexists\@printgloss@checkexists@noignored
\newcommand*{\printglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@glossary}%
}
\newcommand*{\printglossaries}{%
 \forallglossaries{\@glo@type}{\printglossary[type=\@glo@type]}%
}
\newcommand*{\printnoidxglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@noidx@glossary}%
}
\newcommand*{\printnoidxglossaries}{%
 \forallglossaries{\@glo@type}{\printnoidxglossary[type=\@glo@type]}%
}
\newcommand*{\@printgloss@setsort}{}
\newcommand*{\@gls@preglossaryhook}{}
\newcommand{\@printglossary}[2]{%
 \def\@glo@type{\glsdefaulttype}%
 \def\glossarytitle{\csname @glo@type\@glo@type @title\endcsname}%
 \def\glossarytoctitle{\glossarytitle}%
 \let\org@glossarytitle\glossarytitle
 \def\@glossarystyle{%
 \ifx\@glossary@default@style\relax
 \GlossariesWarning{No default glossary style provided \MessageBreak
 for the glossary '\@glo@type'. \MessageBreak
 Using fallback. \MessageBreak
 To fix this set the style with \MessageBreak
 \string\setglossarystyle\space or use the \MessageBreak
 style key=value option}%
 \fi
 }%
 \def\gls@dotoc@title{\glssettoctitle{\@glo@type}}%
 \let\@org@glossaryentrynumbers\glossaryentrynumbers
 \bgroup
 \@printgloss@setsort
 \setkeys{printgloss}{#1}%
 \@printgloss@checkexists{\@glo@type}%
}

```

```

{%
\ifx\glossarytitle\org@glossarytitle
\else
\expandafter\let\csname @glotype@\@glo@type @title\endcsname
\glossarytitle
\fi
\let\currentglossary\@glo@type
\let\org@glossaryentrynumbers\glossaryentrynumbers
\let\glsnonextpages\@glsnonextpages
\let\glsnextpages\@glsnextpages
\let\nopostdesc\@nopostdesc
\gls@dotoc@title
\@glossarystyle
\let\gls@org@glossaryentryfield\glossentry
\let\gls@org@glossarysubentryfield\subglossentry
\renewcommand{\glossentry}[1]{%
\protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
\gls@org@glossaryentryfield{##1}%
}%
\renewcommand{\subglossentry}[2]{%
\protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
\gls@org@glossarysubentryfield{##1}{##2}%
}%
\@gls@preglossaryhook
#2%
}%
\egroup
\global\let\glossaryentrynumbers\@org@glossaryentrynumbers
\global\let\warn@noprintglossary\relax
}
\newcommand{\@print@glossary}{%
\makeatletter
\@input@{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
\IfFileExists{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
{}%
{\null}%
\ifglsxindy
\gls@xdy@set@lang{\@glo@type}%
\edef\@do@auxoutstuff{%
\noexpand\AtEndDocument{%
\noexpand\immediate\noexpand\write\@auxout{%
\string\providecommand\string\@xdylanguage[2]{}}%
\noexpand\immediate\noexpand\write\@auxout{%
\string\@xdylanguage{\@glo@type}{\@gls@langmod}}%
}%
}%
\@do@auxoutstuff
\edef\@do@auxoutstuff{%
\noexpand\AtEndDocument{%
\noexpand\immediate\noexpand\write\@auxout{%

```

```

 \string\providecommand\string\@gls@codepage[2]{}%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@gls@codepage{\@glo@type}{\gls@codepage}}%
 }%
}%
\@do@auxoutstuff
\fi
\renewcommand*{\@warn@nomakeglossaries}{%
 \GlossariesWarningNoLine{\string\makeglossaries\space
 hasn't been used,^^Jthe glossaries will not be updated}%
}%
}
\newcommand*{\@glo@sortentries}[2]{%
 \glosortentrieswarning
 \def\@glo@sortinglist{}%
 \def\@glo@sortinghandler{#1}%
 \protected@edef\@glo@type{#2}%
 \forlistcsloop{\@glo@do@sortentries}{\glsref@#2}%
 \csdef{\glsref@#2}{%
 \@for\@this@label:=\@glo@sortinglist\do{%
 \xifinlistcs{\@this@label}{\glsref@#2}%
 {}%
 {%
 \listcsxadd{\glsref@#2}{\@this@label}%
 }%
 \ifcsdef{\@glo@sortingchildren@\@this@label}%
 {%
 \@glo@addchildren{#2}{\@this@label}%
 }%
 {}%
 }%
}%
}
\newcommand*{\@glo@addchildren}[2]{%
 \bgroup
 \letcs{\@glo@childlist}{\@glo@sortingchildren@#2}%
 \@for\@this@childlabel:=\@glo@childlist\do
 {%
 \xifinlistcs{\@this@childlabel}{\glsref@#1}%
 {}%
 {%
 \listcsxadd{\glsref@#1}{\@this@childlabel}%
 }%
 \ifcsdef{\@glo@sortingchildren@\@this@childlabel}%
 {%
 \@glo@addchildren{#1}{\@this@childlabel}%
 }%
 {}%
 }%
}%
\egroup

```

```

}
\newcommand*{\@glo@do@sortentries}[1]{%
 \ifglshasparent{#1}%
 {%
 \protected@edef\@glo@parent{\csuse{glo@glsetoklabel{#1}@parent}}%
 \ifcsundef{glo@sortingchildren@\@glo@parent}%
 {%
 \csdef{glo@sortingchildren@\@glo@parent}{}%
 }%
 {}%
 \expandafter\@glo@sortedinsert
 \csname @glo@sortingchildren@\@glo@parent\endcsname{#1}%
 \xifinlistcs{\@glo@parent}{glsref@\@glo@type}%
 {%
 }%
 {%
 \expandafter\@glo@do@sortentries\expandafter{\@glo@parent}%
 }%
 }%
 {}%
 \@glo@sortedinsert{\@glo@sortinglist}{#1}%
}%
}
\newcommand*{\@glo@sortedinsert}[2]{%
 \dtlinsertinto{#2}{#1}{\@glo@sortinghandler}%
}%
\newcommand*{\@glo@sorthandler@word}[2]{%
 \letcs@gls@sort@A{glo@glsetoklabel{#1}@sort}%
 \letcs@gls@sort@B{glo@glsetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlwordindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce@gls@sort@B}%
 {\expandonce@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@letter}[2]{%
 \letcs@gls@sort@A{glo@glsetoklabel{#1}@sort}%
 \letcs@gls@sort@B{glo@glsetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlletterindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce@gls@sort@B}%
 {\expandonce@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@case}[2]{%
 \letcs@gls@sort@A{glo@glsetoklabel{#1}@sort}%
 \letcs@gls@sort@B{glo@glsetoklabel{#2}@sort}%
 \edef\glo@do@compare{%

```

```

 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sorthandler@nocase}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*{\@glo@sortmacro@word}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@word}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=word]}{-%
 }%
}
\newcommand*{\@glo@sortmacro@letter}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@letter}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=letter]}{-%
 }%
}
\newcommand*{\@glo@sortmacro@standard}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \ifcsdef{\@glo@sorthandler@\glsorder}%
 {%
 \@glo@sortentries{\csuse{\@glo@sorthandler@\glsorder}}{#1}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\glsorder’}{-%
 }%
 }%
 {%

```

```

 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=standard]}{}%
 }%
}
\newcommand*\@glo@sortmacro@case}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@case}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=case]}{}%
 }%
}
\newcommand*\@glo@sortmacro@nocase}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@nocase}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=nocase]}{}%
 }%
}
}
\newcommand*\@glo@sortmacro@def}[1]{%
 \def\@glo@sortinglist{}%
 \forglseentries[#1]{\@gls@thislabel}%
 {%
 \xifinlistcs{\@gls@thislabel}{\@glsref@#1}%
 {%
 \listcsadd{\@glo@sortinglist}{\@gls@thislabel}%
 }%
 }%
 {%
 }%
 }%
 \cslet{\@glsref@#1}{\@glo@sortinglist}%
}
\newcommand*\@glo@sortmacro@def@do}[1]{%
 \ifinlistcs{#1}{\@glsref@\@glo@type}%
 {}%
 {%
 \listcsadd{\@glsref@\@glo@type}{#1}%
 }%
 \ifcsdef{\@glo@sortingchildren@#1}%
 {%
 \@glo@addchildren{\@glo@type}{#1}%
 }%
}

```

```

 }%
}
\newcommand*{\@glo@sortmacro@use}[1]{%
\newcommand*{\@print@noidx@glossary}{%
\ifcsdef{\@glsref@\@glo@type}%
{%
\ifcsdef{\@glo@sortmacro@\@glo@sorttype}%
{%
\csuse{\@glo@sortmacro@\@glo@sorttype}{\@glo@type}%
}%
}%
\PackageError{glossaries}{Unknown sort handler ‘\@glo@sorttype’}{%
}%
\glossarysection[\glossarytoctitle]{\glossarytitle}%
\glossarypreamble
\def\@gls@currentlettergroup{}%
\begin{theglossary}%
\glossaryheader
\glsresetentrylist
\forlistcsloop{\@gls@noidx@do}{\@glsref@\@glo@type}%
\end{theglossary}%
\glossarypostamble
}%
}%
\@gls@noref@warn{\@glo@type}%
}%
}
\def\@glo@grabfirst#1#2\@nil{%
\def\@gls@firsttok{#1}%
\ifdefempty\@gls@firsttok
{%
\def\@glo@thislettergrp{0}%
}%
}%
\@onelevel@sanitize\@gls@firsttok
\expandafter\@glo@grabfirst\@gls@firsttok{}{}\@nil
}%
}
\def\@glo@grabfirst#1#2\@nil{%
\ifdefempty\@glo@thislettergrp
{%
\def\@glo@thislettergrp{glssymbols}%
}%
}%
\count@=\uccode‘#1\relax
\ifnum\count@=0\relax
\def\@glo@thislettergrp{glssymbols}%
\else
\ifdefstring\@glo@sorttype{case}%
{%

```

```

 \count@=#1\relax
 }%
 {%
 }%
 \edef\@glo@thislettergrp{\the\count@}%
\fi
}%
}
\newcommand{\@gls@noidx@do}[1]{%
 \global\letcs{\@gls@loclist}{glo\glsdetoklabel{#1}@loclist}%
 \ifglshasparent{#1}%
 {%
 \gls@level=\csuse{glo\glsdetoklabel{#1}@level}\relax
 \ifdefvoid{\@gls@loclist}
 {%
 \subglossentry{\gls@level}{#1}{}%
 }%
 {%
 \subglossentry{\gls@level}{#1}%
 {%
 \glsnoidxprenumberlist{#1}%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
 }%
 }%
}%
{%
 \letcs{\@gls@sort}{glo\glsdetoklabel{#1}@sort}%
 \expandafter\glo@grabfirst\@gls@sort{}\@nil
 \ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
 {}%
 {%
 \ifdefempty{\@gls@currentlettergroup}{}%
 {%
 \global\let\@glo@thislettergrp\@glo@thislettergrp
 \glsgroupskip
 }%
 \glsgroupheading{\@glo@thislettergrp}%
 }%
 \global\let\@gls@currentlettergroup\@glo@thislettergrp
 \ifdefvoid{\@gls@loclist}
 {%
 \glossentry{#1}{}%
 }%
 {%
 \glossentry{#1}%
 {%
 \glsnoidxprenumberlist{#1}%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
 }%
}%

```



```

 }%
 }
 \newcommand*\glsnoidxloclist}[1]{%
 \def\@gls@noidxloclist@sep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxloclisthandler}{#1}%
 }
 \newcommand*\glsnoidxloclisthandler}[1]{%
 \ifdefstring{\@gls@noidxloclist@prev}{#1}%
 {%
 }%
 {%
 \@gls@noidxloclist@sep
 #1%
 \def\@gls@noidxloclist@sep{\delimN}%
 \def\@gls@noidxloclist@prev{#1}%
 }%
 }
 \newcommand*\glsnoidxdisplayloclisthandler}[1]{%
 \ifdefstring{\@gls@noidxloclist@prev}{#1}%
 {%
 }%
 {%
 \@gls@noidxloclist@sep
 \@gls@noidxloclist@prev
 \def\@gls@noidxloclist@prev{#1}%
 }%
 }
 \newcommand*\glsnoidxdisplayloc[4]{%
 \setentrycounter[#1]{#2}%
 \csuse{#3}{#4}%
 }
 \newcommand*\@gls@reference}[3]{%
 \glsdoifexistsorwarn{#2}%
 {%
 \ifcsundef{\@glsref@#1}{\csgdef{\@glsref@#1}{}}{%
 \ifinlistcs{#2}{\@glsref@#1}%
 }{%
 \listcsgadd{\@glsref@#1}{#2}%
 \ifcsundef{glo@glstdetoklabel{#2}@loclist}%
 {\csgdef{glo@glstdetoklabel{#2}@loclist}{}}%
 }{%
 \listcsgadd{glo@glstdetoklabel{#2}@loclist}{#3}%
 }%
 }%
 }
 \define@key{printgloss}{type}{\def\@glo@type{#1}}
 \define@key{printgloss}{title}{%
 \def\glossarytitle{#1}%
 \let\gls@dotocitle\relax
 }

```

```

\define@key{printgloss}{toctitle}{%
\def\glossarytoctitle{#1}%
\let\gls@dottoctitle\relax
}
\define@key{printgloss}{style}{%
\ifcsundef{@glsstyle@#1}%
{%
\PackageError{glossaries}%
{Glossary style ‘#1’ undefined}{}%
}%
{%
\def\@glossarystyle{\setglossarystyle{#1}}%
}%
}
\define@choicekey{printgloss}{numberedsection}%
[\gls@numberedsection@val\gls@numberedsection@nr]%
{false,nolabel,autolabel,nameref}[nolabel]%
{%
\ifcase\gls@numberedsection@nr\relax
\renewcommand*\@@glossarysecstar{*}%
\renewcommand*\@@glossaryseclabel{}%
\or
\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{}%
\or
\renewcommand*\@@glossarysecstar{}%
\renewcommand*\@@glossaryseclabel{\label{\glsautoprefix\@glo@type}}%
\or
\renewcommand*\@@glossarysecstar{*}%
\renewcommand*\@@glossaryseclabel{%
\protected@edef\@currentlabelname{\glossarytoctitle}%
\label{\glsautoprefix\@glo@type}}%
\fi
}
\define@choicekey{printgloss}{nogroupskip}{true,false}[true]{%
\csuse{glsnogroupskip#1}%
}
\define@choicekey{printgloss}{nopostdot}{true,false}[true]{%
\csuse{glsnopostdot#1}%
}
\newcommand*\GlsEntryCounterLabelPrefix{glsentry-}
\define@choicekey{printgloss}{entrycounter}{true,false}[true]{%
\csuse{glsentrycounter#1}%
\@gls@define@glossaryentrycounter
}
\define@choicekey{printgloss}{subentrycounter}{true,false}[true]{%
\csuse{glsesubentrycounter#1}%
\@gls@define@glossarysubentrycounter
}
\define@boolkey{printgloss}[gls]{nonumberlist}[true]{%

```

```

\ifglsnonumberlist
 \def\glossaryentrynumbers##1{%
\else
 \def\glossaryentrynumbers##1{##1}%
\fi}
\define@key{printgloss}{sort}{\@glo@assign@sortkey{#1}}
\newcommand*\@glo@no@assign@sortkey}[1]{%
 \PackageError{glossaries}{‘sort’ key not permitted with
 \string\printglossary}%
 {The ‘sort’ key may only be used with \string\printnoidxglossary}%
}
\newcommand*\@glo@assign@sortkey}[1]{%
 \def\@glo@sorttype{#1}%
}
\newcommand*\@glsnonextpages}{%
 \gdef\glossaryentrynumbers##1{%
 \glsresetentrylist
 }%
}
\newcommand*\@glsnextpages}{%
 \gdef\glossaryentrynumbers##1{%
 ##1\glsresetentrylist}}
\newcommand*\glsresetentrylist}{%
 \global\let\glossaryentrynumbers\org@glossaryentrynumbers}
\newcommand*\glsnonextpages}{}
\newcommand*\glsnextpages}{}
\@gls@define@glossaryentrycounter
\@gls@define@glossarysubentrycounter
\newcommand*\glsresetsubentrycounter}{%
 \ifglssubentrycounter
 \setcounter{glossarysubentry}{0}%
 \fi
}
\newcommand*\glsresetentrycounter}{%
 \ifglsentrycounter
 \setcounter{glossaryentry}{0}%
 \fi
}
\newcommand*\glsstepentry}[1]{%
 \ifglsentrycounter
 \refstepcounter{glossaryentry}%
 \label{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \fi
}
\newcommand*\glsstepsubentry}[1]{%
 \ifglssubentrycounter
 \protected@edef\currentglssubentry{\glsdetoklabel{#1}}%
 \refstepcounter{glossarysubentry}%
 \label{\GlsEntryCounterLabelPrefix\currentglssubentry}%
 \fi

```

```

}
\newcommand*{\glsrefentry}[1]{%
\ifglentrycounter
\ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
\else
\ifglssubentrycounter
\ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
\else
\gls{#1}%
\fi
\fi
}
\newcommand*{\glentrycounterlabel}{%
\ifglentrycounter
\theglossaryentry.\space
\fi
}
\newcommand*{\glssubentrycounterlabel}{%
\ifglssubentrycounter
\theglossarysubentry)\space
\fi
}
\newcommand*{\glentryitem}[1]{%
\ifglentrycounter
\glsstepentry{#1}\glentrycounterlabel
\else
\glsresetsubentrycounter
\fi
}
\newcommand*{\glssubentryitem}[1]{%
\ifglssubentrycounter
\glsstepsubentry{#1}\glssubentrycounterlabel
\fi
}
\ifcsundef{theglossary}%
{%
\newenvironment{theglossary}{-}{-}%
}%
{%
\@gls@warnontheglossdefined
\renewenvironment{theglossary}{-}{-}%
}
\newcommand*{\glossaryheader}{}
\newcommand*{\glstarget}[2]{\@glstarget{\glo@linkprefix#1}{#2}}
\newcommand*{\glossentry}[2]{\glossentryname{#1} #2}
\newcommand*{\glossentryname}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\expandafter\glsnamefont\expandafter{\glo@name}%
}
}

```

```

 }%
 }
 \newcommand*{\Glossentryname}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsnamefont{\Glsentryname{#1}}%
 }%
 }
 \glsmfuaddmap{\glossentryname}{\Glossentryname}
 \newcommand*{\glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrydesc{#1}%
 }%
 }
 \newcommand*{\Glossentrydesc}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrydesc{#1}%
 }%
 }
 \glsmfuaddmap{\glossentrydesc}{\Glossentrydesc}
 \newcommand*{\glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrysymbol{#1}%
 }%
 }
 \newcommand*{\Glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrysymbol{#1}%
 }%
 }
 \glsmfuaddmap{\glossentrysymbol}{\Glossentrysymbol}
 \newcommand{\subglossentry}[3]{\glossentryname{#2} #3}
 \newcommand*{\glsgroupskip}{=}
 \newcommand*{\glsgroupheading}[1]{=}
 \newrobustcmd*{\glsgetgrouptitle}[1]{%
 \@gls@getgrouptitle{#1}{\@gls@grptitle}%
 \@gls@grptitle
 }
 \ExplSyntaxOn
 \newcommand*{\@gls@getgrouptitle}[2]{%
 \def#2{#1}%
 \regex_match:nnT { ~\A(.|glsnumbers|glssymbols)\Z } { #1 }
 { \ifcsundef{#1groupname}{ }\letcs#2{#1groupname} }
 }
 \ExplSyntaxOff
 \newcommand*{\@gls@noidx@getgrouptitle}[2]{%

```

```

\DTLifint{#1}%
{\edef#2{\char#1\relax}}%
{%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
}%
}
\ExplSyntaxOn
\newcommand*{\glsgetgrouplabel}[1]{%
 \str_if_eq:eeTF {#1} { \glssymbolsgroupname }
 { \glssymbols }
 {
 \str_if_eq:eeTF {#1} { \glsnumbersgroupname }
 { \glsnumbers }
 { #1 }
 }
}
\ExplSyntaxOff
\newcommand*{\setentrycounter}[2][1]{%
 \def\@glo@counterprefix{#1}%
 \ifx\@glo@counterprefix\empty
 \def\@glo@counterprefix{.}%
 \else
 \def\@glo@counterprefix{.#1.}%
 \fi
 \def\glsentrycounter{#2}%
}
\newcommand*{\setglossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \csname @glsstyle@#1\endcsname
 }%
 \ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
 \fi
}
\newcommand{\newglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \expandafter\def\csname @glsstyle@#1\endcsname{#2}%
 }%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ is already defined}{}%
 }%
}
\newcommand{\renewglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%

```

```

 \PackageError{glossaries}{Glossary style ‘#1’ isn’t already defined}{}%
 }%
 {%
 \csdef{@glsstyle@#1}{#2}%
 }%
}
\newcommand*{\glsnamefont}[1]{#1}
\ifcsundef{hyperlink}%
{%
 \def\glsnumber#1{#1}%
}%
{%
 \def\glsnumber#1{\xp@glsnumber{#1}}
}
\newrobustcmd{\xp@glsnumber}[1]{%
 \glsnumber#1\nohyperpage{}}\@nil
}
\def\@glsnumber#1\nohyperpage#2#3\@nil{%
 \ifx\#1\%
 \else
 \gls@delimR#1\delimR\delimR\%
 \fi
 \ifx\#2\%
 \else
 #2%
 \fi
 \ifx\#3\%
 \else
 \glsnumber#3\@nil
 \fi
}
\def\gls@delimR#1\delimR #2\delimR #3\%
\ifx\#2\%
 \gls@delimN{#1}%
\else
 \@gls@numberlink{#1}\delimR\@gls@numberlink{#2}%
\fi
}
\def\gls@delimN#1{\gls@delimN#1\delimN \delimN\}
\def\gls@delimN#1\delimN #2\delimN#3\%
\ifx\#3\%
 \@gls@numberlink{#1}%
\else
 \@gls@numberlink{#1}\delimN\@gls@numberlink{#2}%
\fi
}
\def\@gls@numberlink#1{%
 \begingroup
 \toks@={}%
 \@gls@removespaces#1 \@nil

```

```

\endgroup
}
\def\@gls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\%
\edef\@gls@x{\the\toks@}%
\ifx\@gls@x\empty
\else
\bgroup
\glswrglossdisableanchorcmds
\protected@edef\@gls@tmp{\glsentrycounter\@glo@counterprefix
\glswrglosslocationtarget{\@gls@x}}%
\@onelevel@sanitize\@gls@tmp
\edef\@gls@x{\noexpand\egroup
\noexpand\hyperlink{\@gls@tmp}%
{\noexpand\glswrglosslocationtextfmt{\the\toks@}}%
}%
\@gls@x
\fi
\else
\@gls@ReturnAfterFi{%
\@gls@removespaces#2\@nil
}%
\fi
}
\long\def\@gls@ReturnAfterFi#1\fi{\fi#1}
\newcommand*\hyperrm}[1]{\textrm{\glsnumber{#1}}}
\newcommand*\hypersf}[1]{\textsf{\glsnumber{#1}}}
\newcommand*\hypertt}[1]{\texttt{\glsnumber{#1}}}
\newcommand*\hyperbf}[1]{\textbf{\glsnumber{#1}}}
\newcommand*\hypermd}[1]{\textmd{\glsnumber{#1}}}
\newcommand*\hyperit}[1]{\textit{\glsnumber{#1}}}
\newcommand*\hypersl}[1]{\textsl{\glsnumber{#1}}}
\newcommand*\hyperup}[1]{\textup{\glsnumber{#1}}}
\newcommand*\hypersc}[1]{\textsc{\glsnumber{#1}}}
\newcommand*\hyperemph}[1]{\emph{\glsnumber{#1}}}
\newcommand{\oldacronym}[4][\@gls@label]{%
\def\@gls@label{#2}%
\newacronym[#4]{#1}{#2}{#3}%
\ifcsundef{xspace}%
{%
\expandafter\edef\csname#1\endcsname{%
\noexpand\@ifstar{\noexpand\Gls{#1}}{\noexpand\gls{#1}}%
}%
}%
\fi
\expandafter\edef\csname#1\endcsname{%
\noexpand\@ifstar{\noexpand\Gls{#1}\noexpand\xspace}{%
\noexpand\gls{#1}\noexpand\xspace}%
}%
}

```



```

}%
}
\newcommand{\newacronym}[4][\%
\gls@newacronym{#1}{#2}{#3}{#4}%
}
\newcommand{\gls@newacronym}[4]{%
\renewcommand{\gls@newacronym}[4]{%
\PackageError{glossaries}{incompatible acronym style:
rollback may be required}%
{something has gone wrong with \string\newacronym. Try
\string\usepackage{glossaries}[=v4.49]}%
}%
\setacronymstyle{long-short}%
\newacronym[#1]{#2}{#3}{#4}%
}
\newcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}
\newrobustcmd*{\glstextup}[1]{\ifdef\textulc{\textulc{#1}}{\textup{#1}}}
\newcommand*{\glsshortkey}{short}
\newcommand*{\glsshortpluralkey}{shortplural}
\newcommand*{\glslongkey}{long}
\newcommand*{\glslongpluralkey}{longplural}
\newcommand{\acrlinkfullformat}[5]{%
\acrfullformat{#1}{#3}{#4}[#5]}{#2}{#3}{#4}[]}%
}
\newcommand{\acrfullformat}[2]{#1\glspace{#2}}
\newrobustcmd*{\glsspace}{\space}
\newcommand*{\acrfullfmt}[3]{%
\acrlinkfullformat{\@acrlong}{\@acrshort}{#1}{#2}{#3}%
}
\newcommand*{\Acrfullfmt}[3]{%
\acrlinkfullformat{\@Acrlong}{\@Acrshort}{#1}{#2}{#3}%
}
\newcommand*{\ACRfullfmt}[3]{%
\acrlinkfullformat{\@ACRlong}{\@ACRshort}{#1}{#2}{#3}%
}
\newcommand*{\acrfullplfmt}[3]{%
\acrlinkfullformat{\@acrlongpl}{\@acrshortpl}{#1}{#2}{#3}%
}
\newcommand*{\Acrfullplfmt}[3]{%
\acrlinkfullformat{\@Acrlongpl}{\@Acrshortpl}{#1}{#2}{#3}%
}
\newcommand*{\ACRfullplfmt}[3]{%
\acrlinkfullformat{\@ACRlongpl}{\@ACRshortpl}{#1}{#2}{#3}%
}
\newrobustcmd*{\acrfull}{\@gls@hyp@opt\ns@acrfull}
\newcommand*{ns@acrfull}[2][\%
\new@ifnextchar[{\@acrfull{#1}{#2}}%
{\@acrfull{#1}{#2}[]}%
}
\def\@acrfull#1#2[#3]{%

```

```

\acrfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\Acrfull}{\@gls@hyp@opt\ns@Acrfull}
\glsmfuaddmap{\acrfull}{\Acrfull}
\newcommand*\ns@Acrfull[2] []{%
 \new@ifnextchar [{\@Acrfull{#1}{#2}}%
 {\@Acrfull{#1}{#2} []}%
}
\def\@Acrfull#1#2[#3]{%
 \Acrfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\ACRfull}{\@gls@hyp@opt\ns@ACRfull}
\newcommand*\ns@ACRfull[2] []{%
 \new@ifnextchar [{\@ACRfull{#1}{#2}}%
 {\@ACRfull{#1}{#2} []}%
}
\def\@ACRfull#1#2[#3]{%
 \ACRfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\acrfullpl}{\@gls@hyp@opt\ns@acrfullpl}
\newcommand*\ns@acrfullpl[2] []{%
 \new@ifnextchar [{\@acrfullpl{#1}{#2}}%
 {\@acrfullpl{#1}{#2} []}%
}
\def\@acrfullpl#1#2[#3]{%
 \acrfullplfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\Acrfullpl}{\@gls@hyp@opt\ns@Acrfullpl}
\glsmfuaddmap{\acrfullpl}{\Acrfullpl}
\newcommand*\ns@Acrfullpl[2] []{%
 \new@ifnextchar [{\@Acrfullpl{#1}{#2}}%
 {\@Acrfullpl{#1}{#2} []}%
}
\def\@Acrfullpl#1#2[#3]{%
 \Acrfullplfmt{#1}{#2}{#3}%
}
}
\newcommand{\acronymfont}[1]{#1}
\newcommand{\firstacronymfont}[1]{\acronymfont{#1}}
\newcommand*\acrnameformat[2]{\acronymfont{#1}}
\newtoks\glskeylisttok
\newtoks\glslabeltok
\newtoks\glsshorttok

```

```

\newtoks\glslongtok
\newcommand*{\newacronymhook}{}
\newcommand*{\SetGenericNewAcronym}{%
 \let\@Gls@entryname\@Gls@acentryname
 \renewcommand{\newacronym}[4][]{%
 \ifdefempty{\@glsacronymlists}%
 {%
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 }%
 }%
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
 \newacronymhook
 \protected@edef\@do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\expandonce{\acronymentry{##2}}},%
 sort={\acronymsort{\the\glsshorttok}{\the\glslongtok}},%
 text={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\glspluralsuffix},%
 \GenericAcronymFields,%
 \the\glskeylisttok
 }%
 }%
 \@do@newglossaryentry
}%
\renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\genacrfullformat{##2}{##3}}}%
\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsuppercase{\genacrfullformat{##2}{##3}}}%
}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsuppercase{\genplacrfullformat{##2}{##3}}}%
}%
\renewcommand*{\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*{\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%

```

```

\renewcommand*{\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*{\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
\newcommand*{\GenericAcronymFields}{description={\the\glslongtok}}
\newcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\newcommand*{\acronymsort}[2]{##1}
\newcommand*{\setacronymstyle}[1]{%
\ifcsundef{@glsacr@dispstyle@##1}
{%
\PackageError{glossaries}{Undefined acronym style ‘##1’}{}%
}%
{%
\ifdefempty{\@glsacronymlists}%
{%
\DeclareAcronymList{\acronymtype}%
}%
{}%
\SetGenericNewAcronym
\GlsUseAcrStyleDefs{##1}%
\@for\@gls@type:=\@glsacronymlists\do{%
\defglsentryfmt[\@gls@type]{\GlsUseAcrEntryDispStyle{##1}}%
}%
}%
}
\newcommand*{\newacronymstyle}[3]{%
\ifcsdef{@glsacr@dispstyle@##1}%
{%
\PackageError{glossaries}{Acronym style ‘##1’ already exists}{}%
}%
{%
\csdef{@glsacr@dispstyle@##1}{##2}%
\csdef{@glsacr@styledefs@##1}{##3}%
}%
}
\newcommand*{\renewacronymstyle}[3]{%
\ifcsdef{@glsacr@dispstyle@##1}%
{%
\csdef{@glsacr@dispstyle@##1}{##2}%
\csdef{@glsacr@styledefs@##1}{##3}%
}%
{%
\PackageError{glossaries}{Acronym style ‘##1’ doesn’t exist}{}%
}%
}
\newcommand*{\GlsUseAcrEntryDispStyle}[1]{\csuse{@glsacr@dispstyle@##1}}
\newcommand*{\GlsUseAcrStyleDefs}[1]{\csuse{@glsacr@styledefs@##1}}
\newacronymstyle{long-short}%
{%
\ifglsashaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%

```

```

{%
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\renewcommand*\genacrfullformat}[2]{%
\glsentrylong{##1}##2\space
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*\Genacrfullformat}[2]{%
\Glsentrylong{##1}##2\space
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*\genplacrfullformat}[2]{%
\glsentrylongpl{##1}##2\space
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
\Glsentrylongpl{##1}##2\space
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix{\glspluralsuffix}%
}
\newacronymstyle{long-sp-short}%
{%
\ifglsashaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
\renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
\renewcommand*\genacrfullformat}[2]{%
\glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*\Genacrfullformat}[2]{%
\Glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*\genplacrfullformat}[2]{%
\glsentrylongpl{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
\Glsentrylongpl{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
}

```

```

\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\newcommand*{\glsacspace}[1]{%
\settowidth{\dimen@}{(\firstacronymfont{\glsentryshort{##1}})}%
\ifdim\dimen@<3em~\else\space\fi
}
\newacronymstyle{short-long}%
{%
\ifglsahaslong{\glslabel}{\glsacspace}{\glsacspace}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshort{##1}}##2\space
(\glsentrylong{##1})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\protect\firstacronymfont{\Glsentryshort{##1}}##2\space
(\glsentrylong{##1})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshortpl{##1}}##2\space
(\glsentrylongpl{##1})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\protect\firstacronymfont{\Glsentryshortpl{##1}}##2\space
(\glsentrylongpl{##1})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\newacronymstyle{long-sc-short}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand{\acronymfont}[1]{\textsc{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{long-sm-short}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
}

```

```

 \renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
 }
 \newacronymstyle{sc-short-long}%
 {%
 \GlsUseAcrEntryDispStyle{short-long}%
 }%
 {%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
 }
 \newacronymstyle{sm-short-long}%
 {%
 \GlsUseAcrEntryDispStyle{short-long}%
 }%
 {%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
 }
 \newacronymstyle{long-short-desc}%
 {%
 \GlsUseAcrEntryDispStyle{long-short}%
 }%
 {%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})%
 }%
 }
 \newacronymstyle{long-sp-short-desc}%
 {%
 \GlsUseAcrEntryDispStyle{long-sp-short}%
 }%
 {%
 \GlsUseAcrStyleDefs{long-sp-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 \renewcommand*{\acronymentry}[1]{%
 \glsentrylong{##1}\glsacspace{##1}(\acronymfont{\glsentryshort{##1}})%
 }%
 }
 \newacronymstyle{long-sc-short-desc}%
 {%
 \GlsUseAcrEntryDispStyle{long-sc-short}%
 }%
 {%
 \GlsUseAcrStyleDefs{long-sc-short}%
 \renewcommand*{\GenericAcronymFields}{}%
 \renewcommand*{\acronymsort}[2]{##2}%
 }

```

```

\renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{long-sm-short-desc}%
{%
 \GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-sm-short}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{sc-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sc-short-long}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{sm-short-long-desc}%
{%
 \GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%
 \GlsUseAcrStyleDefs{sm-short-long}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
 }
\newacronymstyle{dua}%
{%
 \ifdefempty\glscustomtext

```



```

{%
 \ifglshaslong{\glslabel}%
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \glstrylongpl{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylongpl{\glslabel}\glsinsert
 }%
 {%
 \glsupercase
 {\glstrylongpl{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \glstrylong{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylong{\glslabel}\glsinsert
 }%
 {%
 \glsupercase
 {\glstrylong{\glslabel}\glsinsert}%
 }%
 }%
 }%
 {%
 \glsgenentryfmt
 }%
 }%
 {\glscustomtext\glsinsert}%
}%
{%
 \renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
 \renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\glstrylong{##2}##3\space
 (\acronymfont{\glstryshort{##2}})}%
 }%
 \renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylong{##2}##3\space
 (\acronymfont{\glstryshort{##2}})}%
 }%
 \renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsupercase{\glstrylong{##2}##3\space
 (\acronymfont{\glstryshort{##2}})}%
 }%
 }%
 \renewcommand*{\acrfullplfmt}[3]{%

```

```

\glslink[##1]{##2}{\glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\Glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\glsupercase{\glsentrylongpl{##2}##3\space
(\acronymfont{\glsentryshortpl{##2}})}%
\renewcommand*{\glsentryfull}[1]{%
\glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Glsentryfull}[1]{%
\Glsentrylong{##1}\space(\acronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\glsentryfullpl}[1]{%
\glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Glsentryfullpl}[1]{%
\Glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{dua-desc}%
{%
\GlsUseAcrEntryDispStyle{dua}%
}%
{%
\GlsUseAcrStyleDefs{dua}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymentry}[1]{\glsentrylong{##1}}%
\renewcommand*{\acronymsort}[2]{##2}%
}%
\newacronymstyle{footnote}%
{%
\ifglsashaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\glshyperfirstfalse
\renewcommand*{\genacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshort{##1}}##2%
\protect\footnote{\glsentrylong{##1}}%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\firstacronymfont{\Glsentryshort{##1}}##2%
\protect\footnote{\Glsentrylong{##1}}%
}

```

```

}%
\renewcommand*\genplacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
\renewcommand*\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}%
\renewcommand*\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}%
\renewcommand*\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsupercase{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}}}%
\renewcommand*\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}%
\renewcommand*\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}%
\renewcommand*\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsupercase{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}}}%
\renewcommand*\glsentryfull}[1]{%
 \acronymfont{\glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*\Glsentryfull}[1]{%
 \acronymfont{\Glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*\glsentryfullpl}[1]{%
 \acronymfont{\glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
\renewcommand*\Glsentryfullpl}[1]{%
 \acronymfont{\Glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
}
\newacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDispStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymfont}[1]{\textsc{##1}}%

```

```

\renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}%
\newacronymstyle{footnote-sm}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}%
\newacronymstyle{footnote-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote}%
}%
{%
\GlsUseAcrStyleDefs{footnote}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{footnote-sc-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
\GlsUseAcrStyleDefs{footnote-sc}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{footnote-sm-desc}%
{%
\GlsUseAcrEntryDispStyle{footnote-sm}%
}%
{%
\GlsUseAcrStyleDefs{footnote-sm}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newcommand*{\DefineAcronymSynonyms}{%
\let\acs\acrshort
\let\Acs\Acrshort
\let\acsp\acrshortpl
\let\Acsp\Acrshortpl

```

```

\let\acl\acrlong
\let\aclp\acrlongpl
\let\Acl\Acrlong
\let\Aclp\Acrlongpl
\let\acf\acrfull
\let\acfp\acrfullpl
\let\Acf\Acrfull
\let\Acfp\Acrfullpl
\let\ac\gls
\let\Ac\Gls
\let\acp\glspl
\let\Acp\Glspl
}
\ifglsacrshortcuts
 \DefineAcronymSynonyms
\fi
\newcommand*{\SetDefaultAcronymDisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsgenentryfmt}%
}
\newcommand*{\acrfootnote}[3]{\acrlinkfootnote{#1}{#2}{#3}}
\newcommand*{\acrlinkfootnote}[3]{%
 \footnote{\glslink[#1]{#2}{#3}}%
}
\newcommand*{\acrnofootnote}[3]{%
 \footnote{#3}%
}
\newrobustcmd*{\glsdoparenifnotempty}[2]{%
 \protected@edef\gls@tmp{#1}%
 \ifdefempty\gls@tmp
 {}%
 {%
 \ifx\gls@tmp\@gls@default@value
 \else
 \space (#2{#1})%
 \fi
 }%
}
\newcommand*{\@gls@deprecated@acr@warning}[3]{%
 \GlossariesWarning{Acronym style option #1 deprecated.
 Use \string\setacronymstyle{#2} with just glossaries.sty or
 use \string\setabbreviationstyle[acronym]{#3} with
 glossaries-extra.sty}%
}
\RequirePackage{glossary-hypernav}[=v4.52]
\@gls@loadlist
\@gls@loadlong
\@gls@loadsuper
\@gls@loadtree
\ifx\@glossary@default@style\relax
\else

```

```

\setglossarystyle{\@glossary@default@style}
\fi
\newcommand*{\showgloparent}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@parent\endcsname
}
\newcommand*{\showglolevel}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@level\endcsname
}
\newcommand*{\showglotext}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@text\endcsname
}
\newcommand*{\showgloplural}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@plural\endcsname
}
\newcommand*{\showglofirst}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@first\endcsname
}
\newcommand*{\showglofirstpl}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@firstpl\endcsname
}
\newcommand*{\showglotype}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@type\endcsname
}
\newcommand*{\showglocounter}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@counter\endcsname
}
\newcommand*{\showglouseri}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@useri\endcsname
}
\newcommand*{\showglouserii}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@userii\endcsname
}
\newcommand*{\showglouseriii}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@useriii\endcsname
}
\newcommand*{\showglouseriv}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@useriv\endcsname
}
\newcommand*{\showglouserv}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@userv\endcsname
}
\newcommand*{\showglouservi}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@uservi\endcsname
}
\newcommand*{\showglongame}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@name\endcsname
}
\newcommand*{\showglodesc}[1]{%
\expandafter\show\csname glo@\glsdetoklabel{#1}@desc\endcsname
}
}

```

```

\newcommand*{\showglodescplural}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@descplural\endcsname
}
\newcommand*{\showglosort}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@sort\endcsname
}
\newcommand*{\showglosymbol}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@symbol\endcsname
}
\newcommand*{\showglosymbolplural}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@symbolplural\endcsname
}
\newcommand*{\showgloshort}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@short\endcsname
}
\newcommand*{\showglolong}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@long\endcsname
}
\newcommand*{\showgloindex}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@index\endcsname
}
\newcommand*{\showgloflag}[1]{%
 \expandafter\show\csname ifglo@glstdetoklabel{#1}@flag\endcsname
}
\newcommand*{\showgloclist}[1]{%
 \expandafter\show\csname glo@glstdetoklabel{#1}@loclist\endcsname
}
\newcommand*{\showglofield}[2]{%
 \csshow{glo@glstdetoklabel{#1}@#2}%
}
\newcommand*{\showacronymlists}{%
 \show\@glsacronymlists
}
\newcommand*{\showglossaries}{%
 \show\@glo@types
}
\newcommand*{\showglossaryin}[1]{%
 \expandafter\show\csname @glotype@#1@in\endcsname
}
\newcommand*{\showglossaryout}[1]{%
 \expandafter\show\csname @glotype@#1@out\endcsname
}
\newcommand*{\showglossarytitle}[1]{%
 \expandafter\show\csname @glotype@#1@title\endcsname
}
\newcommand*{\showglossarycounter}[1]{%
 \expandafter\show\csname @glotype@#1@counter\endcsname
}
\newcommand*{\showglossaryentries}[1]{%
 \expandafter\show\csname glolist@#1\endcsname
}

```

```
}
```

## 8.36 Rollback v4.52 (glossary-hypernav-2022-11-03.sty)

Version 4.52 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossary-hypernav}[2022/11/03 v4.52 (NLCT)]
\newcommand*\glsnavhyperlink}[3][\currentglossary]{%
 \protected@edef\gls@grplabel{#2}\protected@edef\gls@grptitle{#3}%
 \glslink{\glsnavhyperlinkname{#1}{#2}}{#3}%
}
\newcommand*\glsnavhyperlinkname}[2]{\glsn:#1@#2}
\newcommand*\glsnavhypertarget}{\protect\@gls@navhypertarget}
\newcommand*\@gls@navhypertarget}[3][\currentglossary]{%
 \glsnavhypertarget{#1}{#2}{#3}%
}
\newcommand*\@gls@navhypertarget}[3]{%
 \protected@write\@auxout{}{\string\@gls@hypergroup{#1}{#2}}%
 \gls@target{\glsnavhyperlinkname{#1}{#2}}{#3}%
 \expandafter\let
 \expandafter\@gls@list\csname @gls@hypergroup@list@#1\endcsname
 \@for\@gls@elem:=\@gls@list\do{%
 \ifthenelse{equal{\@gls@elem}{#2}}{\@endfortrue}{}%
 }
 \if@endfor
 \else
 \GlossariesWarningNoLine{Navigation panel
 for glossary type ‘#1’^^Jmissing group ‘#2’}%
 \gdef\gls@hypergroup@rerrun{%
 \GlossariesWarningNoLine{Navigation panel
 has changed. Rerun LaTeX}}%
 \fi
}
\let\gls@hypergroup@rerrun\relax
\AtEndDocument{\gls@hypergroup@rerrun}
\newcommand*\@gls@hypergroup}[2]{%
 \ifcsdef{@gls@hypergroup@list@#1}%
 {\protected@csxappto{@gls@hypergroup@list@#1}{, #2}}%
 {\protected@csxdef{@gls@hypergroup@list@#1}{#2}}%
}
\newcommand*\glsnavigation}{%
 \def\@gls@between{}%
 \ifcsundef{@gls@hypergroup@list@\currentglossary}%
 {%
 \def\@gls@list{}%
 }%
 {%
 \letcs\@gls@list{@gls@hypergroup@list@\currentglossary}%
 }%
 \@for\@gls@tmp:=\@gls@list\do{%
 \@gls@between
```



```

\@gls@getgrouptitle{\@gls@tmp}{\@gls@grptitle}%
\expandafter\glsnavhyperlink\expandafter{\@gls@tmp}{\@gls@grptitle}%
\let\@gls@between\glshypernavsep
}%
}
\newcommand*\glshypernavsep{\space\textbar\space}
\newcommand*\glssymbolnav{%
\glsnavhyperlink{glssymbols}{\glsgetgrouptitle{glssymbols}}%
\glshypernavsep
\glsnavhyperlink{glsnumbers}{\glsgetgrouptitle{glsnumbers}}%
\glshypernavsep
}

```

## 9 Rollback

### 9.1 Rollback v4.54 (glossaries-2024-04-03.sty)

Version 4.54 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries}[2024/04/03 v4.54 (NLCT)]
\RequirePackage{ifthen}
\RequirePackage{xkeyval}[2006/11/18]
\RequirePackage{mfirstuc}[=2.08]
\newcommand{\glssentencecase}[1]{\makefirstuc{#1}}
\ExplSyntaxOn
\newcommand{\glslowercase}[1]{\text_lowercase:n { #1 }}
\newcommand{\glssupercase}[1]{\text_uppercase:n { #1 }}
\ifdef\MFUsentencecase
{%
\newcommand{\glsmfuexcl}[1]{\MFUexcl{#1}}
\newcommand{\glsmfublocker}[1]{\MFUblocker{#1}}
\newcommand{\glsmfuaddmap}[2]{\MFUaddmap{#1}{#2}}
}
{
\RequirePackage{textcase}
\providecommand{\MFUsentencecase}[1]{\text_titlecase_first:n { #1 }}
\providecommand{\glsmfuexcl}[1]{
\tl_if_in:NnF \l_text_case_exclude_arg_tl {#1}
{
\tl_put_right:Nn \l_text_case_exclude_arg_tl {#1}
}
}
\renewcommand*\mfirstucMakeUppercase{\MakeTextUppercase}
\newcommand{\glsmfublocker}[1]{\glsmfuexcl{#1}}
\newcommand{\glsmfuaddmap}[2]{\glsmfuexcl{#1}\glsmfublocker{#2}}
}
\ExplSyntaxOff
\RequirePackage{xfor}
\RequirePackage{datatool-base}[=2.32]

```

```

\RequirePackage{amsgen}
\RequirePackage{etoolbox}
\newif\if@gls@docloaded
\@ifpackageloaded{doc}{%
{%
 \@gls@docloadedtrue
}%
}%
\@ifclassloaded{nlctdoc}{\@gls@docloadedtrue}{\@gls@docloadedfalse}%
}
\if@gls@docloaded
 \let\glsorg@theglossary\theglossary
 \let\glsorg@endtheglossary\endtheglossary
 \let\glsorg@PrintChanges\PrintChanges
 \renewcommand{\PrintChanges}{%
 \begingroup
 \let\theglossary\glsorg@theglossary
 \let\endtheglossary\glsorg@endtheglossary
 \glsorg@PrintChanges
 \endgroup
 }
\fi
\newif\if@gls@debug
\define@choicekey{glossaries.sty}{debug}[\gls@debug@val\gls@debug@nr]{%
{true,false,showtargets,showaccsupp}[true]{%
 \ifcase\gls@debug@nr\relax
 % debug=true
 \@gls@debugtrue
 \renewcommand*\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
 }%
 \renewcommand*\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
 }%
 \let\gls@showtarget\@gobble
 \PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
\or
 % debug=false
 \@gls@debugfalse
 \let\gls@showtarget\@gobble
 \let\gls@showaccsupp\@gobblethree
 \PackageInfo{glossaries}{debug mode OFF}%
\or
 % debug=showtargets
 \@gls@debugtrue
 \renewcommand*\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
 }%
 \renewcommand*\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
 }%
}

```

```

 }%
 \PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
 \renewcommand{\@glsshowtarget}{\@@glsshowtarget}%
 \or
 % debug=showaccsupp
 \@gls@debugtrue
 \renewcommand*\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{##1}%
 }%
 \renewcommand*\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{##1}%
 }%
 \PackageInfo{glossaries}{debug mode ON (nowarn option disabled)}%
 \renewcommand{\@glsshowaccsupp}{\glsshowaccsupp}%
\fi
}
\newcommand*\glsshowtarget}[1]{%
 \ifmmode
 \glsshowtargetinner{#1}%
 \else
 \ifinner
 \glsshowtargetinner{#1}%
 \else
 \glsshowtargetouter{#1}%
 \fi
 \fi
}
\newcommand*\glsshowtargetfonttext}[1]{%
 \ifmmode \nfss@text{\glsshowtargetfont #1}\else {\glsshowtargetfont #1}\fi
}
\newcommand*\glsshowtargetinner}[1]{\glsshowtargetfonttext{[#1]}}
\newcommand*\glsshowtargetouter}[1]{%
 \glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}
\newcommand*\glsshowtargetsymbolsymbol{\tiny\triangleright}
\newcommand*\glsshowtargetfont{\ttfamily\footnotesize}
\newcommand*\@glsshowtarget}[1]{%
\newcommand*\glsdoshowtarget}[2]{\@glsshowtarget{#1}#2}
\newrobustcmd*\@@glsshowtarget}[1]{%
 \begingroup
 \protected@edef\@gls@tmp{#1}%
 \@onelevel@sanitize\@gls@tmp
 \expandafter\glsshowtarget\expandafter{\@gls@tmp}%
 \endgroup
}
\newcommand*\@glsshowaccsupp}[3]{}
\newrobustcmd*\glsshowaccsupp}[3]{%
 \ifstrempy{#1}%
 {\@@glsshowtarget{/#2 (#3)}}%
 {\@@glsshowtarget{/#2 (#3) [#1]}}%
}

```

```

\newcommand*{\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries\space (or move
 \string\newglossaryentry\space
 definitions into the preamble)}}%
{You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key. It may
 be that the 'see' key has been written to the .glsdefs
 file from the previous run, in which case you need to
 move your definitions
 to the preamble if you don't want to use
 \string\makeglossaries\space
 or \string\makenoidxglossaries}%
}
\define@choicekey{glossaries.sty}{seenoindex}{%
 [\gls@seenoindex@val\gls@seenoindex@nr]{error,warn,ignore}{%
 \ifcase\gls@seenoindex@nr
 \renewcommand*{\@gls@see@noindex}{%
 \PackageError{glossaries}%
 {'\gls@xr@key' key may only be used after \string\makeglossaries\space
 or \string\makenoidxglossaries}%
 {You must use \string\makeglossaries\space
 or \string\makenoidxglossaries\space before defining
 any entries that have a '\gls@xr@key' key}%
 }%
 \or
 \renewcommand*{\@gls@see@noindex}{%
 \GlossariesWarning{'\gls@xr@key' key ignored}%
 }%
 \or
 \renewcommand*{\@gls@see@noindex}{}%
 \fi
}
\define@boolkey{glossaries.sty}[gls]{toc}[true]{}
\define@boolkey{glossaries.sty}[gls]{numberline}[true]{}
\ifcsundef{chapter}%
 {\newcommand*{\@@glossarysec}{section}}%
 {\newcommand*{\@@glossarysec}{chapter}}
\define@choicekey{glossaries.sty}{section}{part,chapter,section,%
subsection,subsubsection,paragraph,subparagraph}[section]{%
 \renewcommand*{\@@glossarysec}{#1}}
\newcommand*{\@@glossarysecstar}{*}
\newcommand*{\@@glossaryseclabel}{}
\newcommand*{\glsautoprefix}{}
\define@choicekey{glossaries.sty}{numberedsection}%
 [\gls@numberedsection@val\gls@numberedsection@nr]{%
 false,nolabel,autolabel,nameref}[nolabel]{%
 \ifcase\gls@numberedsection@nr\relax

```

```

\renewcommand*\@@glossarysecstar}{*}%
\renewcommand*\@@glossaryseclabel}{}%
\or
\renewcommand*\@@glossarysecstar}{}%
\renewcommand*\@@glossaryseclabel}{}%
\or
\renewcommand*\@@glossarysecstar}{}%
\renewcommand*\@@glossaryseclabel}{%
\label{\glsautoprefix\@glo@type}}%
\or
\renewcommand*\@@glossarysecstar}{*}%
\renewcommand*\@@glossaryseclabel}{%
\protected@edef\@currentlabelname{\glossarytoctitle}%
\label{\glsautoprefix\@glo@type}}%
\fi
}
\@ifpackageloaded{classicthesis}
{\newcommand*\@glossary@default@style}{index}}
{\newcommand*\@glossary@default@style}{list}}
\define@key{glossaries.sty}{style}{%
\def\@glossary@default@style{#1}%
}
\newcommand*\@gls@declareoption}[2]{%
\DeclareOptionX{#1}{#2}%
\DeclareOption{#1}{#2}%
}
\newcommand*\@glossaryentrynumbers}[1]{#1\@gls@save@numberlist{#1}}
\@gls@declareoption{nonumberlist}{%
\renewcommand*\@glossaryentrynumbers}[1]{\@gls@save@numberlist{#1}}%
}
\define@boolkey{glossaries.sty}[gls]{savenumberlist}[true]{%
\gls@savenumberlistfalse
\newcommand*\@glo@seeautonumberlist{}
\@gls@declareoption{seeautonumberlist}{%
\renewcommand*\@glo@seeautonumberlist}{%
\def\@glo@prefix{\glsnextpages}%
}%
}
\define@boolkey{glossaries.sty}[gls]{esclocations}[true]{%
\gls@esclocationfalse
\newcommand*\@gls@loadlong{\RequirePackage{glossary-long}}
\@gls@declareoption{nonlong}{\renewcommand*\@gls@loadlong}{}}
\IfFileExists{supertabular.sty}{%
\newcommand*\@gls@loadsuper{\RequirePackage{glossary-super}}}{%
\newcommand*\@gls@loadsuper}{}}
\@ifpackageloaded{xtab}{\renewcommand*\@gls@loadsuper}{}}{}
\@gls@declareoption{nosuper}{\renewcommand*\@gls@loadsuper}{}}{}
\newcommand*\@gls@loadlist{\RequirePackage{glossary-list}}
\@gls@declareoption{noindex}{%
\renewcommand*\@gls@loadlist}{%

```

```

\ifdefstring{\@glossary@default@style}{list}%
{\let\@glossary@default@style\relax}%
}%
}%
}
\newcommand*\@gls@loadtree{\RequirePackage{glossary-tree}}
\@gls@declareoption{notree}{\renewcommand*\@gls@loadtree{}}
\@gls@declareoption{nostyles}{%
\renewcommand*\@gls@loadlong}{}%
\renewcommand*\@gls@loadsuper}{}%
\renewcommand*\@gls@loadlist}{}%
\renewcommand*\@gls@loadtree}{}%
\let\@glossary@default@style\relax
}
\newcommand*\glspostdescription{%
\ifglsnopostdot\else.\spacefactor\sfcode'\. \fi
}
\define@boolkey{glossaries.sty}[gls]{nopostdot}[true]{}
\glsnopostdotfalse
\define@boolkey{glossaries.sty}[gls]{nogroupskip}[true]{}
\glsnogroupskipfalse
\define@boolkey{glossaries.sty}[gls]{ucmark}[true]{}
\@ifclassloaded{memoir}
{%
\glsucmarktrue
}%
{%
\glsucmarkfalse
}
\newcommand*\@gls@define@glossaryentrycounter{%
\ifglsentrycounter
\ifundef\c@glossaryentry
{%
\ifx\@gls@counterwithin\@empty
\newcounter{glossaryentry}%
\else
\newcounter{glossaryentry}[\@gls@counterwithin]%
\fi
\def\theHglossaryentry{\currentglossary.\theglossaryentry}%
}%
}%
\fi
}
\define@boolkey{glossaries.sty}[gls]{entrycounter}[true]{}
\glsentrycounterfalse
\define@key{glossaries.sty}{counterwithin}{%
\renewcommand*\@gls@counterwithin{#1}%
\glsentrycountertrue
\@gls@define@glossaryentrycounter
}
}

```

```

\newcommand*{\@gls@counterwithin}{}
\newcommand{\@gls@define@glossarysubentrycounter}{%
 \ifundef\c@glossarysubentry
 {%
 \ifglssubentrycounter
 \ifglsubentrycounter
 \newcounter{glossarysubentry}[glossaryentry]%
 \else
 \newcounter{glossarysubentry}%
 \fi
 \def\theHglossarysubentry{\currentglossary.\currentglssubentry.\theglossarysubentry}%
 \fi
 }%
}%
}
\define@boolkey{glossaries.sty}[gls]{subentrycounter}[true]{}
\glssubentrycounterfalse
\newcommand{\glsindexingsetting}{\ifglsubentrycounter\else makeindex\fi}
\newcommand*{\@glo@default@sorttype}{standard}
\define@choicekey{glossaries.sty}{sort}{standard,def,use,none,clear}{%
 \renewcommand*{\@glo@default@sorttype}{#1}%
 \csname @gls@setupsort@#1\endcsname
}
\newcommand*{\glsprestandardsort}[3]{%
 \glsdosanitizesort
}
\newcommand*{\@glo@check@sortallowed}[1]{}
\newcommand*{\@gls@setupsort@standard}{%
 \def\do@glo@storeentry{\@glo@storeentry}%
 \def\@gls@defsortcount##1{}%
 \def\@gls@defsort##1##2{%
 \ifx\@glo@sort\@glsdefaultsort
 \let\@glo@sort\@glo@name
 \fi
 \let\glsdosanitizesort\@gls@sanitizesort
 \glsprestandardsort{\@glo@sort}{##1}{##2}%
 \expandafter\protected\def\csname glo@##2@sort\endcsname{\@glo@sort}%
 }%
 \def\@gls@setsort##1{}%
 \let\@glo@check@sortallowed\@gobble
}
\@gls@setupsort@standard
\newcommand*\glsortnumberfmt[1]{%
 \ifnum#1<100000 0\fi
 \ifnum#1<10000 0\fi
 \ifnum#1<1000 0\fi
 \ifnum#1<100 0\fi
 \ifnum#1<10 0\fi
 \number#1%
}

```

```

\newcommand*{\@gls@setupsort@def}{%
 \def\do@glo@storeentry{\@glo@storeentry}%
 \def\@gls@defsortcount##1{%
 \expandafter\global
 \expandafter\newcount\csname glossary@##1@sortcount\endcsname
 }%
 \def\@gls@defsort##1##2{%
 \ifcsundef{glossary@##1@sortcount}%
 {\@gls@defsortcount{##1}}%
 {}%
 \expandafter\global\expandafter
 \advance\csname glossary@##1@sortcount\endcsname by 1\relax
 \expandafter\protected@xdef\csname glo@##2@sort\endcsname{%
 \expandafter\glssortnumberfmt
 {\csname glossary@##1@sortcount\endcsname}}%
 }%
 \def\@gls@setsort##1{%
 \let\@glo@check@sortallowed\@gobble
 }
\newcommand*{\@gls@setupsort@use}{%
 \let\do@glo@storeentry\@gobble
 \def\@gls@defsortcount##1{%
 \expandafter\global
 \expandafter\newcount\csname glossary@##1@sortcount\endcsname
 }%
 \def\@gls@defsort##1##2{%
 \expandafter\gdef\csname glo@##2@sort\endcsname{}%
 }%
 \def\@gls@setsort##1{%
 \protected@edef\@glo@parent{\csname glo@##1@parent\endcsname}%
 \ifx\@glo@parent\@empty
 \else
 \expandafter\@gls@setsort\expandafter{\@glo@parent}%
 \fi
 \protected@edef\@glo@type{\csname glo@##1@type\endcsname}%
 \protected@edef\@gls@tmp{\csname glo@##1@sort\endcsname}%
 \ifx\@gls@tmp\@empty
 \expandafter\global\expandafter
 \advance\csname glossary@\@glo@type @sortcount\endcsname by 1\relax
 \expandafter\protected@xdef\csname glo@##1@sort\endcsname{%
 \expandafter\glssortnumberfmt
 {\csname glossary@\@glo@type @sortcount\endcsname}}%
 \@glo@storeentry{##1}%
 \fi
 }%
 \let\@glo@check@sortallowed\@gobble
}
\newcommand*{\@gls@setupsort@none}{%
 \def\glsindexingsetting{none}%
 \def\do@glo@storeentry##1{%

```



```

\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{%
 \expandafter\global\expandafter\let\csname glo@##2@sort\endcsname\@glo@sort
}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=none not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*\@gls@setupsort@clear{%
\def\glsindexingsetting{none}%
\def\do@glo@storeentry##1{%
\def\@gls@defsortcount##1{%
\def\@gls@defsort##1##2{\csgdef{glo@##2@sort}{}}%
\def\@gls@setsort##1{%
\renewcommand\@glo@check@sortallowed[1]{\PackageError{glossaries}
{Option sort=clear not allowed with \string##1}%
{(Use sort=def instead)}}%
}
\newcommand*\glsdefmain{%
\if@gls@docloaded
\newglossary[glg2]{main}{gls2}{glo2}{\glossaryname}%
\else
\newglossary{main}{gls}{glo}{\glossaryname}%
\fi
\newcommand*\gls@tr@set@main@toctitle{%
\translatelet{\glossarytoctitle}{Glossary}%
}%
}
\newcommand*\glsdefaulttype{main}
\newcommand*\acronymtype{\glsdefaulttype}
\@gls@declareoption{nomain}{%
\let\glsdefaulttype\relax
\renewcommand*\glsdefmain}{%
}
\define@boolkey{glossaries.sty}[gls]{acronym}[true]{%
\ifglsacronym
\renewcommand{\@gls@do@acronymsdef}{%
\DeclareAcronymList{acronym}%
\newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
\renewcommand*\acronymtype{acronym}%
\newcommand*\gls@tr@set@acronym@toctitle}{%
\translatelet{\glossarytoctitle}{Acronyms}%
}%
}%
\else
\let\@gls@do@acronymsdef\relax
\fi
}
\AtBeginDocument{%

```

```

\ifglsacronym
 \providecommand*\printacronyms}[1][1]{%
 \printglossary[type=\acronymstype,#1]%
 \fi
}
\newcommand*\@gls@do@acronymsdef{}
\@gls@declareoption{acronyms}{%
 \glsacronymtrue
 \def\@gls@do@acronymsdef{%
 \DeclareAcronymList{acronym}%
 \newglossary[alg]{acronym}{acr}{acn}{\acronymname}%
 \renewcommand*\@acronymstype{acronym}%
 \newcommand*\gls@tr@set@acronym@toctitle}{%
 \translatelet{\glossarytoctitle}{Acronyms}%
 }%
 }%
}
\newcommand*\@gls@acronymlists{}
\newcommand*\@addtoacronymlists}[1]{%
 \ifx\@gls@acronymlists\@empty
 \protected@xdef\@gls@acronymlists{#1}%
 \else
 \protected@xdef\@gls@acronymlists{\@gls@acronymlists,#1}%
 \fi
}
\newcommand*\DeclareAcronymList}[1]{%
 \glsIfListOfAcronyms{#1}{\@addtoacronymlists{#1}}%
}
\newcommand{\glsIfListOfAcronyms}[1]{%
 \protected@edef\@do@gls@islistofacronyms{%
 \noexpand\@gls@islistofacronyms{#1}{\@gls@acronymlists}}%
 \@do@gls@islistofacronyms
}
\newcommand{\@gls@islistofacronyms}[4]{%
 \def\gls@islistofacronyms##1,#1,##2\end@gls@islistofacronyms{%
 \def\@gls@before{##1}\def\@gls@after{##2}}%
 \gls@islistofacronyms,#2,#1,\@nil\end@gls@islistofacronyms
 \ifx\@gls@after\@nnil
 #4%
 \else
 #3%
 \fi
}
\newif\if@gls@isacronymlist
\newcommand*\@gls@checkisacronymlist}[1]{%
 \glsIfListOfAcronyms{#1}%
 {\@gls@isacronymlisttrue}{\@gls@isacronymlistfalse}%
}
\newcommand*\SetAcronymLists}[1]{%
 \renewcommand*\@gls@acronymlists{#1}%

```

```

}
\define@key{glossaries.sty}{acronymlists}{%
 \DeclareAcronymList{#1}%
}
\newcommand{\glscounter}{page}
\define@key{glossaries.sty}{counter}{%
 \renewcommand*{\glscounter}{#1}%
}
\newcommand*{\@gls@nohyperlist}{}
\newcommand*{\GlsDeclareNoHyperList}[1]{%
 \ifdefempty\@gls@nohyperlist
 {%
 \renewcommand*{\@gls@nohyperlist}{#1}%
 }%
 {%
 \appto\@gls@nohyperlist{,#1}%
 }%
}
\define@key{glossaries.sty}{nohypertypes}{%
 \GlsDeclareNoHyperList{#1}%
}
\newcommand*{\GlossariesWarning}[1]{%
 \PackageWarning{glossaries}{#1}%
}
\newcommand*{\GlossariesWarningNoLine}[1]{%
 \PackageWarningNoLine{glossaries}{#1}%
}
\newcommand{\glosortentrieswarning}{%
 \typeout{Using TeX to sort glossary entries---this may
 take a while}%
}
\@gls@declareoption{nowarn}{%
 \if@gls@debug
 \GlossariesWarning{Warnings can't be suppressed in debug mode}%
 \else
 \renewcommand*{\GlossariesWarning}[1]{}%
 \renewcommand*{\GlossariesWarningNoLine}[1]{}%
 \renewcommand*{\glosortentrieswarning}{}%
 \renewcommand*{\@gls@missinglang@warn}[2]{}%
 \fi
}
\newcommand*{\@gls@missinglang@warn}[2]{%
 \PackageWarningNoLine{glossaries}%
 {No language module detected for '#1'.\MessageBreak
 Language modules need to be installed separately.\MessageBreak
 Please check on CTAN for a bundle called\MessageBreak
 'glossaries-#2' or similar}%
}
\@gls@declareoption{nolangwarn}{%
 \renewcommand*{\@gls@missinglang@warn}[2]{}%
}

```

```

}
\newcommand*{\@gls@warnonglossdefined}{%
 \GlossariesWarning{Overriding \string\printglossary}%
}
\newcommand*{\@gls@warnontheGLOSSdefined}{%
 \GlossariesWarning{Overriding 'theGLOSS' environment}%
}
\@gls@declareoption{noredefwarn}{%
 \renewcommand*{\@gls@warnonglossdefined}{}%
 \renewcommand*{\@gls@warnontheGLOSSdefined}{}%
}
\newcommand*{\glssetexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
}
\newcommand*{\glssetnoexpandfield}[1]{%
 \csdef{gls@assign@#1@field}##1##2{%
 \@gls@noexpand@field{##1}{#1}{##2}%
 }%
}
\glssetexpandfield{type}
\glssetnoexpandfield{desc}
\glssetnoexpandfield{descplural}
\newcommand*{\@gls@sanitizename}{}
\glssetnoexpandfield{name}
\newcommand*{\@gls@sanitizesymbol}{}
\glssetnoexpandfield{symbol}
\glssetnoexpandfield{symbolplural}
\newcommand*{\@gls@sanitizesort}{%
 \ifgls@sanitizesort
 \@gls@sanitizesort
 \else
 \@gls@nosanitizesort
 \fi
}
\newcommand*\@gls@sanitizesort{%
 \@onelevel@sanitize\@glo@sort
}
\newcommand*{\@gls@nosanitizesort}{}
\newcommand*\@gls@noidx@sanitizesort{%
 \ifdefvoid\@glo@sort
 {}%
 {%
 \expandafter\@gls@noidx@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@gls@noidx@sanitizesort#1#2\gls@end@sanitizesort{%
 \def\@glo@sort{#1#2}%
 \@onelevel@sanitize\@glo@sort
}

```

```

}
\newcommand*{\@@gls@noidx@nosanitizesort}{%
 \ifdefvoid\@glo@sort
 {}%
 {%
 \expandafter\@@gls@noidx@no@sanitizesort\@glo@sort\gls@end@sanitizesort
 }%
}
\def\@@gls@noidx@no@sanitizesort#1#2\gls@end@sanitizesort{%
 \bgroup
 \glsnoidxstripaccents
 \protected@xdef\@@glo@sort{#1#2}%
 \egroup
 \let\@glo@sort\@@glo@sort
}
\newcommand*\glsnoidxstripaccents{%
 \let\IeC\@firstofone
 \let\add@accent@\@secondoftwo
 \let\@text@composite@x@\@secondoftwo
 \let\@tabacckludge\@secondoftwo
 \expandafter\def\csname \encodingdefault-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname OT1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname T1-cmd\endcsname##1##2##3{##3}%
 \expandafter\def\csname PD1-cmd\endcsname##1##2##3{##3}%
 \let'\@firstofone
 \let'\@firstofone
 \let\~\@firstofone
 \let"\@firstofone
 \let\u\@firstofone
 \let\t\@firstofone
 \let\d\@firstofone
 \let\r\@firstofone
 \let=\@firstofone
 \let.\@firstofone
 \let~\@firstofone
 \let\v\@firstofone
 \let\H\@firstofone
 \let\c\@firstofone
 \let\b\@firstofone
 \let\a\@secondoftwo
 \def\AE{AE}%
 \def\ae{ae}%
 \def\OE{OE}%
 \def\oe{oe}%
 \def\AA{AA}%
 \def\aa{aa}%
 \def\L{L}%
 \def\l{l}%
 \def\O{O}%
 \def\o{o}%

```

```

\def\SS{SS}%
\def\ss{ss}%
\def\th{th}%
\def\TH{TH}%
\def\dh{dh}%
\def\DH{DH}%
}
\@ifl@t@r\fmtversion{2019/10/01}
{%
\appto\glsnoidxstripaccents{\let\UTFviii@two@octets\UTFviii@two@octets@combine}%
}
{}
\newcommand{\@gls@removedoption}[1]{%
\PackageError{glossaries}{obsolete package option ‘#1’ has been
removed. Rollback required or use a newer alternative}
{Try \string\usepackage[#1]{glossaries}[=v4.46]}%
}
\define@boolkey[gls]{sanitize}{description}[true]{%
\GlossariesWarning{sanitize={description} package option deprecated}%
\ifgls@sanitize@description
\glssetnoexpandfield{desc}%
\glssetnoexpandfield{descplural}%
\else
\glssetexpandfield{desc}%
\glssetexpandfield{descplural}%
\fi
}
\define@boolkey[gls]{sanitize}{name}[true]{%
\GlossariesWarning{sanitize={name} package option deprecated}%
\ifgls@sanitize@name
\glssetnoexpandfield{name}%
\else
\glssetexpandfield{name}%
\fi
}
\define@boolkey[gls]{sanitize}{symbol}[true]{%
\GlossariesWarning{sanitize={symbol} package option deprecated}%
\ifgls@sanitize@symbol
\glssetnoexpandfield{symbol}%
\glssetnoexpandfield{symbolplural}%
\else
\glssetexpandfield{symbol}%
\glssetexpandfield{symbolplural}%
\fi
}
\define@boolkey{glossaries.sty}[gls]{sanitizesort}[true]{%
\ifglssanitizesort
\glssetnoexpandfield{sortvalue}%
\renewcommand*{\@gls@noidx@setsanitizesort}{%
\glssanitizesorttrue

```

```

 \glsssetnoexpandfield{sortvalue}%
 }%
\else
 \glsssetexpandfield{sortvalue}%
 \renewcommand*{\@gls@noidx@setsanitizesort}{%
 \glsssanitizesortfalse
 \glsssetexpandfield{sortvalue}%
 }%
\fi
}
\glsssanitizesorttrue
\glsssetnoexpandfield{sortvalue}%
\newcommand*{\@gls@noidx@setsanitizesort}{%
 \glsssanitizesortfalse
 \glsssetexpandfield{sortvalue}%
}
\define@choicekey[gls]{sanitize}{sort}{true,false}[true]{%
 \setbool{glsssanitizesort}{#1}%
 \ifglsssanitizesort
 \glsssetnoexpandfield{sortvalue}%
 \else
 \glsssetexpandfield{sortvalue}%
 \fi
 \GlossariesWarning{sanitize={sort} package option
 deprecated. Use sanitizesort instead}%
}
\define@key{glossaries.sty}{sanitize}[description=true,symbol=true,name=true]{%
 \ifthenelse{\equal{#1}{none}}{%
 {%
 \GlossariesWarning{sanitize package option deprecated}%
 \glsssetexpandfield{name}%
 \glsssetexpandfield{symbol}%
 \glsssetexpandfield{symbolplural}%
 \glsssetexpandfield{desc}%
 \glsssetexpandfield{descplural}%
 }%
 }%
 \setkeys[gls]{sanitize}{#1}%
}%
}
\newif\ifglstranslate
\newcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%

```

```

 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 {}%
 }%
 {}%
}%
}
\newcommand{\glsifusedtranslatordict}[3]{%
 \glsifusetranslator
 {\ifcsdef{ver@glossaries-dictionary-#1.dict}{#2}{#3}}%
 {#3}%
}
\@gls@declareoption{nottranslate}{%
 \glstranslatefalse
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
}
\define@choicekey{glossaries.sty}{translate}{%
 [\gls@translate@val\gls@translate@nr]%
 {true,false,babel}[true]%
 {%
 \ifcase\gls@translate@nr\relax
 \glstranslatetrue
 \renewcommand*\@gls@usetranslator{%
 \@ifpackageloaded{polyglossia}%
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \@ifpackageloaded{babel}%
 {%
 \IfFileExists{translator.sty}%
 {%
 \RequirePackage{translator}%
 \let\glsifusetranslator\@firstoftwo
 }%
 {}%
 }%
 {}%
 }%
 }%
 }%
}
\or
\glstranslatefalse
\let\@gls@usetranslator\relax
\let\glsifusetranslator\@secondoftwo
\or
\glstranslatetrue
\let\@gls@usetranslator\relax

```



```

 \let\glsifusetranslator\@secondoftwo
 \fi
}
\glstranslatefalse
\let\glsifusetranslator\@secondoftwo
\@ifpackageloaded{translator}%
{%
 \glstranslatetrue
 \let\glsifusetranslator\@firstoftwo
}%
{%
 \@for\gls@thissty:=tracklang,babel,ngerman,polyglossia\do
 {
 \@ifpackageloaded{\gls@thissty}%
 {%
 \glstranslatetrue
 \@endfortrue
 }%
 {}%
 }
}
}
\newcommand{\@gls@requested@languages}{}
\define@key{glossaries.sty}{languages}{%
 \renewcommand{\@gls@requested@languages}{#1}%
 \glstranslatetrue
 \let\@gls@usetranslator\relax
 \let\glsifusetranslator\@secondoftwo
}
\define@boolkey{glossaries.sty}[gls]{indexonlyfirst}[true]{%
 \glsindexonlyfirstfalse
}
\define@boolkey{glossaries.sty}[gls]{hyperfirst}[true]{%
 \glshyperfirsttrue
}
\newcommand*{\@gls@setacrstyle}{}
\define@boolkey{glossaries.sty}[glsacr]{footnote}[true]{%
 \ifglsacrfootnote
 \@gls@removedoption{footnote}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{description}[true]{%
 \ifglsacrdescription
 \@gls@removedoption{description}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{smallcaps}[true]{%
 \ifglsacrsmallcaps
 \@gls@removedoption{smallcaps}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{smaller}[true]{%
 \ifglsacrsmaller

```

```

 \@gls@removedoption{smaller}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{dua}[true]{%
 \ifglsacrdua
 \@gls@removedoption{dua}%
 \fi
}
\define@boolkey{glossaries.sty}[glsacr]{shortcuts}[true]{}
\newcommand*\@glsorder{word}
\newcommand*\@glsorder[1]{}
\define@choicekey{glossaries.sty}{order}{word,letter}{%
 \def\glsorder{#1}}
\newif\ifglsxindy
\glsxindyfalse
\@gls@declareoption{makeindex}{\glsxindyfalse}
\define@boolkey[gls]{xindy}{glsnumbers}[true]{}
\gls@xindy@glsnumberstrue
\def\@xdy@main@language{\language}%
\newcommand*\@gls@xdy@set@lang[1]{%
 \ifcsundef{\@xdy@#1@language}%
 {%
 \ifcsundef{\@xdy@\glsdefaulttype @language}
 {\let\@gls@langmod\@xdy@main@language}%
 {\letcs\@gls@langmod{\@xdy@\glsdefaulttype @language}}%
 }%
 {\letcs\@gls@langmod{\@xdy@#1@language}}%
 }
}
\define@key[gls]{xindy}{language}{\def\@xdy@main@language{#1}}
\ifvoid\inputencodingname
 {\def\gls@codepage{utf8}}%
 {\def\gls@codepage{\inputencodingname}}
\define@key[gls]{xindy}{codepage}{\def\gls@codepage{#1}}
\define@key{glossaries.sty}{xindy}[][%
 \glsxindytrue
 \setkeys[gls]{xindy}{#1}%
}
\@gls@declareoption{xindygloss}{%
 \glsxindytrue
}
\@gls@declareoption{xindynoglsnumbers}{%
 \glsxindytrue
 \gls@xindy@glsnumbersfalse
}
\providecommand{\@domakeglossaries}[1]{\if@filesw #1\fi}
\@gls@declareoption{disablemakegloss}{%
 \ifdequal\makeglossaries\@no@makeglossaries
 {%
 \GlossariesWarning{Option 'disablemakegloss' has no effect
 (\string\makenoidxglossaries\space has already been used)}%
 }
 }

```

```

}%
{%
\ifdefequal\@makeglossary\@gobble
{%
\GlossariesWarning{Option ‘disablemakegloss’ has no effect
(\string\makeglossaries\space has already been used)}%
}%
{%
\renewcommand{\@domakeglossaries}[1]{%
\PackageInfo{glossaries}{\string\makeglossaries\space and
\string\makenoidxglossaries\space have been disabled}%
}%
}%
}%
}
\@gls@declareoption{restoremakegloss}{%
\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlossariesWarning{Option ‘restoremakegloss’ has no effect
(\string\makenoidxglossaries\space has already been used)}%
}%
{%
\ifdefequal\@makeglossary\@gobble
{%
\GlossariesWarning{Option ‘restoremakegloss’ has no effect
(\string\makeglossaries\space has already been used)}%
}%
{%
\PackageInfo{glossaries}{\string\makeglossaries\space and
\string\makenoidxglossaries\space have been restored}%
\let\@domakeglossaries\@firstofone
}%
}%
}
}
\newcommand*\@do@write@glslabels{%
\AtEndDocument{\@do@write@glslabels}%
\let\@do@write@glslabels\relax
}
\newcommand*\@do@write@glslabels{%
\newwrite\@gls@labelsfile
\immediate\openout\@gls@labelsfile=\jobname.glslabels
\protected@edef\@gls@fulllist{\@gls@types}%
\ifdefempty{\@ignored@glossaries}{%
{\protected@eappto\@gls@fulllist{\@ignored@glossaries}}%
\forallglsentries[\@gls@fulllist]{\@glsentry}%
}%
\ifdefempty{\@glsentry}{%
{%
\ifx\do@write@glslabelsname\@gobble
\def\@gls@thisentryname{%

```

```

 \else
 \letcs{\@gls@thisentryname}{glo@\glsdetoklabel{\@glsentry}@name}%
 \@onelevel@sanitize\@gls@thisentryname
 \fi
 \immediate\write\@gls@labelsfile
 {\@glsentry\do@write@glslabelsname{\@gls@thisentryname}}%
 }%
}%
\immediate\closeout\@gls@labelsfile
}
\newcommand*\do@write@glslabelsname[1]{%
\begingroup
\catcode'\^^I12
\gdef\@write@glslabelsname#1{\^^I#1}
\endgroup
\@gls@declareoption{writeglslabels}{\do@write@glslabels
\let\do@write@glslabelsname\gobble}
\@gls@declareoption{writeglslabelnames}{\do@write@glslabels
\let\do@write@glslabelsname\write@glslabelsname}
\newif\ifglsautomake
\newcommand{\gls@automake@nr}{1}
\newcommand{\gls@automake@makegloss}{%
\newcommand{\gls@automake@option}{automake=\gls@automake@val}
\newcommand*\@gls@do@automake@err}{%
\PackageError{glossaries}{You must use
\string\makeglossaries\space with \gls@automake@option}
{%
 Either remove the \gls@automake@option\space setting or
 add \string\makeglossaries\space to your document preamble.%
}%
}%
}%
\define@choicekey{glossaries.sty}{automake}%
[\gls@automake@val\gls@automake@nr]{true,false,immediate,makegloss,lite,delayed}[immediate]{%
\ifcase\gls@automake@nr\relax
\GlossariesWarning{automake=true deprecated. Use automake=delayed for a delayed write}%
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomakefalse
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries}%
\or
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
\or

```

```

\def\gls@automake@nr{0}%
\glsautomaketrue
\renewcommand{\gls@automake@makegloss}{}%
\fi
\renewcommand{\gls@automake@option}{automake=\gls@automake@val}%
\ifglsautomake
\let\@gls@doautomake\@gls@do@automake@err
\else
\renewcommand*{\@gls@doautomake}{}%
\fi
}
\glsautomakefalse
\newcommand*{\@gls@doautomake}{%
\AtEndDocument{\@gls@doautomake}
\@gls@declareoption{automakegloss}{%
\glsautomaketrue
\renewcommand{\gls@automake@option}{automakegloss}%
\def\gls@automake@val{makegloss}%
\def\gls@automake@nr{3}%
\renewcommand{\gls@automake@makegloss}{makeglossaries}%
\let\@gls@doautomake\@gls@do@automake@err
}
\@gls@declareoption{automakeglosslite}{%
\glsautomaketrue
\renewcommand{\gls@automake@option}{automakeglosslite}%
\def\gls@automake@val{lite}%
\def\gls@automake@nr{4}%
\renewcommand{\gls@automake@makegloss}{makeglossaries-lite}%
\let\@gls@doautomake\@gls@do@automake@err
}
\define@boolkey{glossaries.sty}[gls]{savewrites}[true]{%
\ifgls savewrites
\renewcommand*{\glswritefiles}{\@glswritefiles}%
\else
\let\glswritefiles\@empty
\fi
}
\gls savewritesfalse
\let\glswritefiles\@empty
\define@boolkey{glossaries.sty}[gls]{compatible-3.07}[true]{%
\ifbool{glscompatible-3.07}%
{%
\@gls@removedoption{compatible-3.07}%
}%
}%
}
\boolfalse{glscompatible-3.07}
\define@boolkey{glossaries.sty}[gls]{compatible-2.07}[true]{%
\ifbool{glscompatible-2.07}%
{%

```

```

 \@gls@removedoption{compatible-2.07}%
 }%
 {}%
}
\boolfalse{glscompatible-2.07}
\let\gls@original@makeglossary\makeglossary
\let\gls@original@glossary\glossary
\newcommand*{\@gls@override@glossary}[1][main]{%
 \GlossariesWarning{Use of \string\glossary\space with
glossaries.sty is deprecated. \MessageBreak Indexing should be performed
with the user level \MessageBreak commands, such as \string\gls\space or
\string\glsadd. If you need the \MessageBreak original definition of
\string\glossary\space use the package \MessageBreak options
kernelglossredefs=false (to restore the \MessageBreak former definition of
\string\glossary) and nomain (if the \MessageBreak file extensions cause a
conflict)}%
 \gls@glossary{#1}%
}
\define@choicekey{glossaries.sty}{kernelglossredefs}%
[\@gls@kernelglossredefs@val\@gls@kernelglossredefs@nr]{true,false,nowarn}[true]%
{
 \ifcase\@gls@kernelglossredefs@nr\relax
 \def\glossary{\@gls@override@glossary}%
 \def\makeglossary{%
 \GlossariesWarning{Use of \string\makeglossary\space with
glossaries.sty is deprecated. Use \string\makeglossaries\space
instead. If you need the original definition of
\string\makeglossary\space use the package options
kernelglossredefs=false (to prevent redefinition of
\string\makeglossary) and nomain (if the file extensions cause a
conflict)}%
 \makeglossaries
 }%
 \or
 \let\glossary\gls@original@glossary
 \let\makeglossary\gls@original@makeglossary
 \or
 \def\makeglossary{\makeglossaries}%
 \renewcommand*{\@gls@override@glossary}[1][main]{%
 \gls@glossary{##1}%
 }%
 \fi
}
\@gls@declareoption{symbols}{%
 \let\@gls@do@symbolsdef\@gls@symbolsdef
}
\newcommand*{\@gls@do@symbolsdef}{%
\newcommand*{\@gls@symbolsdef}{%
 \newglossary[slg]{symbols}{sls}{slo}{\glssymbolsgroupname}%
 \newcommand*{\printsymbols}[1][\printglossary[type=symbols,##1]}%
}

```

```

\newcommand*\gls@tr@set@symbols@toctitle}{%
 \translatelet{\glossarytoctitle}{Symbols (glossaries)}%
}%
}%
\@gls@declareoption{numbers}{%
 \let\@gls@do@numbersdef\@gls@numbersdef
}
\newcommand*\@gls@do@numbersdef{}
\newcommand*\@gls@numbersdef{%
 \newglossary[nlg]{numbers}{nls}{nlo}{\glsnumbersgroupname}%
 \newcommand*\@printnumbers}[1][\]{\printglossary[type=numbers,##1]}%
 \newcommand*\gls@tr@set@numbers@toctitle}{%
 \translatelet{\glossarytoctitle}{Numbers (glossaries)}%
 }%
}%
\@gls@declareoption{index}{%
 \ifx\@gls@do@indexdef\@empty
 \let\@gls@do@indexdef\@gls@indexdef
 \fi
}
\@gls@declareoption{noglossaryindex}{%
 \let\@gls@do@indexdef\relax
}
\newcommand*\@gls@do@indexdef{}
\newcommand*\@gls@indexdef{%
 \newglossary[ilg]{index}{ind}{idx}{\indexname}%
 \newcommand*\@printindex}[1][\]{\printglossary[type=index,##1]}%
 \newcommand*\@newterm}[2][\]{%
 \newglossaryentry{##2}%
 {type={index},name={##2},description={\nopostdesc},##1}}
 \let\@gls@do@indexdef\relax
}%
\define@choicekey{glossaries.sty}{mfirstuc}{%
 [\gls@mfirstuc@val\gls@mfirstuc@nr]%
 {expanded,unexpanded}%
 {%
 \ifcase\gls@mfirstuc@nr
 % expanded
 \renewcommand*\@gls@makefirstuc}[1]{\MFUsentencecase{#1}}%
 \or
 % unexpanded
 \renewcommand*\@gls@makefirstuc}[1]{\MFUsentencecase{\unexpanded{#1}}}%
 \fi
 }
}
\@for\CurrentOption :=\@declaredoptions\do{%
 \ifx\CurrentOption\@empty
 \else
 \@expandtwoargs
 \in@ {\CurrentOption ,}{,\@classoptionslist,\@curroptions,}%
 \ifin@

```

```

 \@use@ption
 \expandafter \let\csname ds@\CurrentOption\endcsname\@empty
 \fi
\fi
}
\ProcessOptionsX
\ifglsautomake
\ifdef\directlua{\RequirePackage{shellesc}}{}
\fi
\disable@keys{glossaries.sty}{compatible-2.07,%
xindy,xindygloss,xindynoglsnumbers,makeindex,%
acronym,translate,notranslate,languages,nolong,nosuper,notree,nostyles,%
nomain,noglossaryindex}
\newcommand*{\setupglossaries}[1]{%
\renewcommand*{\@gls@setacrstyle}{}%
\ifglsacrshortcuts
\def\@gls@setupshortcuts{\glsacrshortcutstrue}%
\else
\def\@gls@setupshortcuts{%
\ifglsacrshortcuts
\DefineAcronymSynonyms
\fi
}%
\fi
\glsacrshortcutsfalse
\let\@gls@do@numbersdef\relax
\let\@gls@do@symbolssdef\relax
\let\@gls@do@indexdef\relax
\let\@gls@do@acronymsdef\relax
\ifglsentrycounter
\let\@gls@doentrycounterdef\relax
\else
\let\@gls@doentrycounterdef\@gls@define@glossaryentrycounter
\fi
\ifglssubentrycounter
\let\@gls@dosubentrycounterdef\relax
\else
\let\@gls@dosubentrycounterdef\@gls@define@glossarysubentrycounter
\fi
\setkeys{glossaries.sty}{#1}%
\@gls@setacrstyle
\@gls@setupshortcuts
\@gls@do@acronymsdef
\@gls@do@numbersdef
\@gls@do@symbolssdef
\@gls@do@indexdef
\@gls@doentrycounterdef
\@gls@dosubentrycounterdef
}
\ifthenelse{\equal{\glscounter}{section}}{%

```



```

{%
 \ifcsundef{chapter}{}%
 {%
 \let\@gls@old@chapter\@chapter
 \def\@chapter[#1]#2{\@gls@old@chapter[#1]}{#2}%
 \ifcsundef{hyperdef}{\hyperdef{section}{\thesection}}{}%
 }%
}%
{}
\newcommand*\@gls@onlypremakeg{}
\newcommand*\@onlypremakeg[1]{%
 \ifx\@gls@onlypremakeg\@empty
 \def\@gls@onlypremakeg{#1}%
 \else
 \expandafter\toks@\expandafter{\@gls@onlypremakeg}%
 \edef\@gls@onlypremakeg{\the\toks@,\noexpand#1}%
 \fi
}
\newcommand*\@disable@onlypremakeg{%
\@for\@thiscs:=\@gls@onlypremakeg\do{%
 \expandafter\@disable@premakecs\@thiscs%
}}
\newcommand*\@disable@premakecs[1]{%
 \def#1{\PackageError{glossaries}{\string#1\space may only be
used before \string\makeglossaries}{You can't use
\string#1\space after \string\makeglossaries}}%
}
\providecommand*\glossaryname{Glossary}
\providecommand*\acronymname{Acronyms}
\newcommand*\glssettocitle[1]{%
 \def\glossarytocitle{\csname @glotype@#1@title\endcsname}}
\providecommand*\entryname{Notation}
\providecommand*\descriptionname{Description}
\providecommand*\symbolname{Symbol}
\providecommand*\pagelistname{Page List}
\providecommand*\glsymbolsgroupname{Symbols}
\providecommand*\glsnumbersgroupname{Numbers}
\newcommand*\glspluralsuffix{s}
\newcommand*\glsacrpluralsuffix{\glspluralsuffix}
\newcommand*\glsupacrpluralsuffix{\glstextup{\glsacrpluralsuffix}}
\providecommand*\seename{see}
\providecommand*\andname{\&}
\newcommand*\RequireGlossariesLang[1]{%
 \@ifundefined{ver@glossaries-#1.ldf}{\input{glossaries-#1.ldf}}{}%
}
\newcommand*\ProvidesGlossariesLang[1]{%
 \ProvidesFile{glossaries-#1.ldf}%
}
\newcommand*\addglossarytocaptions[1]{}
\ifglstranslate

```

```

\RequirePackage{tracklang}[2019/11/30]
\ifvoid\@gls@requested@languages{%
{%
 \for\@gls@thislang:=\@gls@requested@languages\do{%
 \TrackIfKnownLanguage{\@gls@thislang}{}%
 {\GlossariesWarning{unknown language ‘\@gls@thislang’}}%
 }%
}%
\@gls@usetranslator
\@ifpackageloaded{translator}
{%
 \ifboolexpr
 {
 test {\ifdefstring{\trans@languages}{English}}
 and not
 test {\ifdefstring{bbl@loaded}{english}}
 }
 {%
 \let\glsifusetranslator\@secondoftwo
 }%
 {%
 \usedictionary{glossaries-dictionary}%
 \renewcommand*{\addglossarytocaptions}[1]{%
 \ifcsundef{captions#1}{%
 {%
 \expandafter\let\expandafter\@gls@tmp\csname captions#1\endcsname
 \expandafter\toks@\expandafter{\@gls@tmp
 \renewcommand*{\glossaryname}{\translate{Glossary}}}%
 }%
 \expandafter\edef\csname captions#1\endcsname{\the\toks@}%
 }%
 }%
 }%
 }%
}%
\}
\}
\AnyTrackedLanguages
{%
 \ForEachTrackedDialect{\this@dialect}{%
 \IfTrackedLanguageFileExists{\this@dialect}%
 {glossaries-}% prefix
 {.ldf}%
 {%
 \RequireGlossariesLang{\CurrentTrackedTag}%
 }%
 {%
 \@gls@missinglang@warn\this@dialect\CurrentTrackedLanguage
 }%
 }%
}%
\}
\}

```

```

\glsifusetranslator
{%
 \renewcommand*\glssettoctitle}[1]{%
 \ifcsdef{gls@tr@set@#1@toctitle}%
 {%
 \csuse{gls@tr@set@#1@toctitle}%
 }%
 {%
 \def\glossarytoctitle{\csname @glotype@#1@title\endcsname}%
 }%
 }%
 \renewcommand*\glossaryname{\translate{Glossary}}%
 \renewcommand*\acronymname{\translate{Acronyms}}%
 \renewcommand*\entryname{\translate{Notation (glossaries)}}%
 \renewcommand*\descriptionname{%
 \translate{Description (glossaries)}}%
 \renewcommand*\symbolname{\translate{Symbol (glossaries)}}%
 \renewcommand*\pagelistname{%
 \translate{Page List (glossaries)}}%
 \renewcommand*\glsymbolsgroupname{%
 \translate{Symbols (glossaries)}}%
 \renewcommand*\glsnumbersgroupname{%
 \translate{Numbers (glossaries)}}%
 }{%
\fi
\DeclareRobustCommand*\nopostdesc{}
\newcommand*\@nopostdesc{%
 \let\org@glspostdescription\glspostdescription
 \def\glspostdescription{%
 \let\glspostdescription\org@glspostdescription}%
}
\newcommand*\@no@post@desc{\nopostdesc}
\newcommand*\glspar{\par}
\newcommand*\setStyleFile[1]{%
 \renewcommand*\gls@istfilebase{#1}%
 \ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
 \else
 \def\istfilename{\gls@istfilebase.ist}
 \fi
}
\@onlypremakeg\setStyleFile
\ifglxindy
 \def\istfilename{\gls@istfilebase.xdy}
\else
 \def\istfilename{\gls@istfilebase.ist}
\fi
\newcommand*\gls@istfilebase{\jobname}
\newcommand*\@istfilename[1]{%
\newcommand*\glscompositor{.}

```

```

\newcommand*\glsSetCompositor}[1]{%
 \renewcommand*\glscompositor{#1}}
\@onlypremakeg\glsSetCompositor
\newcommand*\@glsAlphacompositor{\glscompositor}
\ifglsxindy
 \newcommand*\glsSetAlphaCompositor[1]{%
 \renewcommand*\@glsAlphacompositor{#1}}
\else
 \newcommand*\glsSetAlphaCompositor[1]{%
 \glsnoxywarning\glsSetAlphaCompositor}
\fi
\@onlypremakeg\glsSetAlphaCompositor
\newcommand*\gls@suffixF{}
\newcommand*\glsSetSuffixF}[1]{%
 \renewcommand*\gls@suffixF{#1}}
\@onlypremakeg\glsSetSuffixF
\newcommand*\gls@suffixFF{}
\newcommand*\glsSetSuffixFF}[1]{%
 \renewcommand*\gls@suffixFF{#1}}
}
\ifcsundef{hyperlink}%
{%
 \newcommand*\glsnumberformat}[1]{#1}%
}%
{%
 \newcommand*\glsnumberformat}[1]{\glshypernumber{#1}}%
}
\newcommand{\glslocationstoencap}[3]{\csuse{#2}{\csuse{#1}{#3}}}
\newcommand{\delimN}{, }
\newcommand{\delimR}{--}
\newcommand*\glossarypreamble{%
 \csuse{@glossarypreamble@\currentglossary}}
}
\newcommand{\setglossarypreamble}[2][\glsdefaultttype]{%
 \ifglossaryexists*{#1}%
 {\csgdef{@glossarypreamble@#1}{#2}}%
 {\GlossariesWarning{Glossary ‘#1’ is not defined}}%
}
\newcommand*\glossarypostamble{}
\newcommand*\glossarysection}[2][\@gls@title]{%
 \def\@gls@title{#2}%
 \ifcsundef{phantomsection}%
 {%
 \@glossarysection{#1}{#2}%
 }%
 {%
 \@pglossarysection{#1}{#2}%
 }%
 \gls glossarymark{\glossarytoctitle}%
}

```

```

\ifcsundef{glossarymark}%
{%
 \newcommand{\glsglossarymark}[1]{\glossarymark{#1}}
}%
{%
 \@ifclassloaded{memoir}
 {%
 \newcommand{\glsglossarymark}[1]{%
 \ifglsucmark
 \markboth{\memUHead{#1}}{\memUHead{#1}}%
 \else
 \markboth{#1}{#1}%
 \fi
 }
 }%
 {%
 \newcommand{\glsglossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\glssupercase{#1}}{\glssupercase{#1}}%
 \else
 \@mkboth{#1}{#1}%
 \fi
 }
 }
}
\providecommand{\glossarymark}[1]{%
 \ifglsucmark
 \@mkboth{\glssupercase{#1}}{\glssupercase{#1}}%
 \else
 \@mkboth{#1}{#1}%
 \fi
}
\newcommand*{\setglossarysection}[1]{%
\setkeys{glossaries.sty}{section=#1}}
\newcommand*{\@glossarysection}[2]{%
 \ifdefempty\@glossarysecstar
 {%
 \csname\@glossarysec\endcsname[#1]{#2}%
 }%
 {%
 \csname\@glossarysec\endcsname*{#2}%
 \@gls@toc{#1}{\@glossarysec}%
 }%
 \@glossaryseclabel
}
\newcommand*{\@p@glossarysection}[2]{%
 \glsclearpage
 \phantomsection
 \ifdefempty\@glossarysecstar
 {%

```

```

 \csname\@@glossarysec\endcsname{#2}%
 }%
 {%
 \@gls@toc{#1}\@@glossarysec}%
 \csname\@@glossarysec\endcsname*{#2}%
 }%
 \@@glossaryseclabel
}
\newcommand*\gls@docclearpage{%
\ifthenelse{\equal{\@@glossarysec}{chapter}}%
{%
 \ifcsundef{cleardoublepage}%
 {%
 \clearpage
 }%
 {%
 \ifcsdef{if@openright}%
 {%
 \if@openright
 \cleardoublepage
 \else
 \clearpage
 \fi
 }%
 {%
 \cleardoublepage
 }%
 }%
}%
}%
}%
}
\newcommand*\glscclearpage{\gls@docclearpage}
\newcommand*\@gls@toc}[2]{%
\ifglstoc
\ifglsnumberline
\addcontentsline{toc}{#2}{\protect\numberline{#1}}%
\else
\addcontentsline{toc}{#2}{#1}%
\fi
\fi
}
\newcommand*\glsnoxindywarning}[1]{%
\GlossariesWarning{Not in xindy mode --- ignoring \string#1}%
}
\newcommand*\glsnomakeindexwarning}[1]{%
\GlossariesWarning{Not in makeindex mode --- ignoring \string#1}%
}
\ifglsxindy
\edef\xdyattributes{\string"default\string"}%
\fi

```

```

\ifglxindy
 \edef\xdyattributelist{}%
\fi
\ifglxindy
 \def\xdylocref{}
\fi
\newcommand*\@gls@ifinlist}[4]{%
 \def\@do@ifinlist##1,#1,##2\end@doifinlist{%
 \def\@gls@listsuffix{##2}%
 \ifx\@gls@listsuffix\@empty
 #4%
 \else
 #3%
 \fi
 }%
 \@do@ifinlist,#2,#1,\end@doifinlist
}
\ifglxindy
 \newcommand*\@xdycounters{\glscounter}
 \newcommand*\GlsAddXdyCounters[1]{%
 \for\@gls@ctr:=#1\do{%
 \edef\@do@addcounter{%
 \noexpand\@gls@ifinlist{\@gls@ctr}{\@xdycounters}{}%
 {%
 \noexpand\edef\noexpand\@xdycounters{\@xdycounters,%
 \noexpand\@gls@ctr}%
 }%
 }%
 \do@addcounter
 }
 }
 \onlypremakeg\GlsAddXdyCounters
\else
 \newcommand*\GlsAddXdyCounters[1]{%
 \glsnoindywarning\GlsAddXdyAttribute
 }
\fi
\newcommand*\@disabled@glsaddxdycounters{%
 \PackageError{glossaries}{\string\GlsAddXdyCounters\space
 can't be used after \string\GlsAddXdyAttribute}{Move all
 occurrences of \string\GlsAddXdyCounters\space before the first
 instance of \string\GlsAddXdyAttribute}%
}
\ifglxindy
 \newcommand*\@glsaddxdyattribute[2]{%
 \edef\xdyattributes{\@xdyattributes ^^J
 \string"#2#1\string"}%
 \expandafter\toks@\expandafter{\@xdylocref}%
 \edef\xdylocref{\the\toks@ ^^J%
 (markup-locref

```

```

:open \string"\glstildechar n%
 \expandafter\string\csname glsX#2X#1\endcsname
 \string" ^^J
:close \string"\string" ^^J
:attr \string"#2#1\string"}}%
\expandafter\gdef\csname glsX#2X#1\endcsname##1##2{%
 \setentrycounter[##1]{#2}\csname #1\endcsname{##2}%
}%
}
\newcommand*\GlsAddXdyAttribute[1]{%
 \ifx\@xdyattributelist\@empty
 \edef\@xdyattributelist{#1}%
 \else
 \edef\@xdyattributelist{\@xdyattributelist,#1}%
 \fi
 \edef\@xdyattributes{\@xdyattributes ^^J
 \string"#1\string"}%
 \@for\@this@counter:=\@xdycounters\do{%
 \protected@edef\gls@do@addxdyattribute{%
 \noexpand\@glsaddxdyattribute{#1}{\@this@counter}%
 }
 \gls@do@addxdyattribute
 }%
 \let\GlsAddXdyCounters\@disabled@glsaddxdycounters
}
\@onlypremakeg\GlsAddXdyAttribute
\else
\newcommand*\GlsAddXdyAttribute[1]{%
 \glsnoxindywarning\GlsAddXdyAttribute}
\fi
\ifglsexindy
\newcommand*{\@gls@addpredefinedattributes}{%
 \GlsAddXdyAttribute{glsnumberformat}
 \GlsAddXdyAttribute{textrm}
 \GlsAddXdyAttribute{textsf}
 \GlsAddXdyAttribute{texttt}
 \GlsAddXdyAttribute{textbf}
 \GlsAddXdyAttribute{textmd}
 \GlsAddXdyAttribute{textit}
 \GlsAddXdyAttribute{textup}
 \GlsAddXdyAttribute{textsl}
 \GlsAddXdyAttribute{textsc}
 \GlsAddXdyAttribute{emph}
 \GlsAddXdyAttribute{glshypernumber}
 \GlsAddXdyAttribute{hyperrm}
 \GlsAddXdyAttribute{hypersf}
 \GlsAddXdyAttribute{hypertt}
 \GlsAddXdyAttribute{hyperbf}
 \GlsAddXdyAttribute{hypermd}
 \GlsAddXdyAttribute{hyperit}

```



```

\GlsAddXdyAttribute{hyperup}
\GlsAddXdyAttribute{hypersl}
\GlsAddXdyAttribute{hypersc}
\GlsAddXdyAttribute{hyperemph}
\GlsAddXdyAttribute{glsignore}
}
\else
\let\@gls@addpredefinedattributes\relax
\fi
\def\@xdyuseralphabets{
\ifglxindy
\newcommand*\@GlsAddXdyAlphabet}[2]{%
\edef\@xdyuseralphabets{%
\@xdyuseralphabets ^^J
(define-alphabet "#1" (#2))}}
\else
\newcommand*\@GlsAddXdyAlphabet}[2]{%
\glsnoxindywarning\@GlsAddXdyAlphabet}
\fi
\ifglxindy
\newcommand*\@gls@xdy@locationlist{%
roman-page-numbers,%
Roman-page-numbers,%
arabic-page-numbers,%
alpha-page-numbers,%
Alpha-page-numbers,%
Appendix-page-numbers,%
arabic-section-numbers%
}
\protected@edef\@gls@roman{\@roman{0}\string"
\string"roman-numbers-lowercase\string" :sep \string"}%
\@onelevel@sanitize\@gls@roman
\edef\@gls@tmp{\string" \string"roman-numbers-lowercase\string"
:sep \string"}%
\@onelevel@sanitize\@gls@tmp
\ifx\@gls@tmp\@gls@roman
\expandafter
\edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{%
\string"roman-numbers-lowercase\string"%
}%
\else
\expandafter
\edef\csname @gls@xdy@Lclass@roman-page-numbers\endcsname{
:sep \string"\@gls@roman\string"%
}%
\fi
\expandafter\def\csname @gls@xdy@Lclass@Roman-page-numbers\endcsname{%
\string"roman-numbers-uppercase\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@arabic-page-numbers\endcsname{%

```

```

\string"arabic-numbers\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@alpha-page-numbers\endcsname{%
\string"alpha\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Alpha-page-numbers\endcsname{%
\string"ALPHA\string"%
}%
\expandafter\def\csname @gls@xdy@Lclass@Appendix-page-numbers\endcsname{%
\string"ALPHA\string"
:sep \string"\@glsAlphacompositor\string"
\string"arabic-numbers\string"%
}
\expandafter\def\csname @gls@xdy@Lclass@arabic-section-numbers\endcsname{%
\string"arabic-numbers\string"
:sep \string"\glscompositor\string"
\string"arabic-numbers\string"%
}%
\def\@xdyuserlocationdefs{}
\def\@xdyuserlocationnames{}
\fi
\ifglxindy
\newcommand\@xdycrossrefhook{}
\fi
\ifglxindy
\newcommand*\GlsAddXdyLocation}[3][[]]{%
\def\@gls@tmp{#1}%
\ifx\@gls@tmp\@empty
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep \string"{}\glsopenbrace\string" #3
:sep \string"\glsclosebrace\string"))
}%
\else
\edef\@xdyuserlocationdefs{%
\@xdyuserlocationdefs ^^J%
(define-location-class \string"#2\string"^^J\space\space
\space(:sep "\glsopenbrace"
#1
:sep "\glsclosebrace\glsopenbrace" #3
:sep "\glsclosebrace"))
}%
\fi
\edef\@xdyuserlocationnames{%
\@xdyuserlocationnames^^J\space\space\space
\string"#2\string"}%
}
\@onlypremakeg\GlsAddXdyLocation
\else

```

```

\newcommand*\GlsAddXdyLocation[2]{%
 \glsnoxywarning\GlsAddXdyLocation}
\fi
\ifglxindy
\def\@xdylocationclassorder{^^J\space\space\space
 \string"roman-page-numbers\string"^^J\space\space\space
 \string"arabic-page-numbers\string"^^J\space\space\space
 \string"arabic-section-numbers\string"^^J\space\space\space
 \string"alpha-page-numbers\string"^^J\space\space\space
 \string"Roman-page-numbers\string"^^J\space\space\space
 \string"Alpha-page-numbers\string"^^J\space\space\space
 \string"Appendix-page-numbers\string"
 \@xdyuserlocationnames^^J\space\space\space
 \string"see\string"
}
\fi
\ifglxindy
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
 \def\@xdylocationclassorder{#1}}
\else
\newcommand*\GlsSetXdyLocationClassOrder[1]{%
 \glsnoxywarning\GlsSetXdyLocationClassOrder}
\fi
\ifglxindy
\def\@xdysortrules{}
\fi
\ifglxindy
\newcommand*\GlsAddSortRule[2]{%
 \expandafter\toks@\expandafter{\@xdysortrules}%
 \protected@edef\@xdysortrules{\the\toks@ ^^J
 (sort-rule \string"#1\string" \string"#2\string")}%
}
\else
\newcommand*\GlsAddSortRule[2]{%
 \glsnoxywarning\GlsAddSortRule}
\fi
\ifglxindy
\def\@xdyrequiredstyles{tex}
\fi
\ifglxindy
\newcommand*\GlsAddXdyStyle[1]{%
 \edef\@xdyrequiredstyles{\@xdyrequiredstyles,#1}}%
\else
\newcommand*\GlsAddXdyStyle[1]{%
 \glsnoxywarning\GlsAddXdyStyle}
\fi
\ifglxindy
\newcommand*\GlsSetXdyStyles[1]{%
 \edef\@xdyrequiredstyles{#1}}
\else

```

```

\newcommand*\GlsSetXdyStyles[1]{%
 \glsnoxywarning\GlsSetXdyStyles}
\fi
\def\@xdylanguage#1#2{}
\ifglxindy
 \newcommand*\GlsSetXdyLanguage[2][\glsdefaulttype]{%
 \ifglossaryexists{#1}{%
 \expandafter\def\csname @xdy@#1@language\endcsname{#2}%
 }{%
 \PackageError{glossaries}{Can't set language type for
 glossary type '#1' --- no such glossary}{%
 You have specified a glossary type that doesn't exist}}
 \else
 \newcommand*\GlsSetXdyLanguage[2][]{%
 \glsnoxywarning\GlsSetXdyLanguage}
 \fi
 \def\@gls@codepage#1#2{}
 \ifglxindy
 \newcommand*\GlsSetXdyCodePage[1]{%
 \renewcommand*\@gls@codepage{#1}%
 }
 \AtBeginDocument{%
 \ifx\@gls@codepage@empty
 \@ifpackageloaded{fontspec}{\def\@gls@codepage{utf8}}{}%
 \fi
 }
 \else
 \newcommand*\GlsSetXdyCodePage[1]{%
 \glsnoxywarning\GlsSetXdyCodePage}
 \fi
 \ifglxindy
 \ifglxindy@glsnumbers
 \def\@xdylettergroups{(define-letter-group
 \string"glxnumbers\string"^^J\space\space\space
 :prefixes (\string"0\string" \string"1\string"
 \string"2\string" \string"3\string" \string"4\string"
 \string"5\string" \string"6\string" \string"7\string"
 \string"8\string" \string"9\string")^^J\space\space\space
 \@xdynumbergrouporder)}
 \else
 \def\@xdylettergroups{}
 \fi
 \fi
 \newcommand*\GlsAddLetterGroup[2]{%
 \expandafter\toks@\expandafter{\@xdylettergroups}%
 \protected@edef\@xdylettergroups{\the\toks@^^J%
 (define-letter-group \string"#1\string"^^J\space\space\space#2)}%
 }%
\newcommand*\forallglossaries[3][\@glo@types]{%
 \@for#2:=#1\do{\ifx#2\@empty\else#3\fi}%
}

```

```

}

\newcommand*\forallacronyms}[2]{%
 \@for#1:=\@glsacronymlists\do{\ifx#1\@empty\else#2\fi}%
}

\newcommand*\forallsentries}[3][\glsdefaulttype]{%
 \protected@edef\@glo@list{\csname glolist@#1\endcsname}%
 \@for#2:=\@glo@list\do
 {%
 \ifdefempty{#2}{#3}%
 }%
}

\newcommand*\forallglsentries}[3][\@glo@types]{%
 \expandafter\forallglossaries\expandafter[#1]{\@@this@glo@}%
 {%
 \forallglsentries[\@@this@glo@]{#2}{#3}%
 }%
}

\newcommand{\ifglossaryexists}{%
 \@ifstar\s@ifglossaryexists\@ifglossaryexists
}

\newcommand{\@ifglossaryexists}[3]{%
 \ifcsundef{glo@type@#1@out}{#3}{#2}%
}

\newcommand{\s@ifglossaryexists}[3]{%
 \ifcsundef{glolist@#1}{#3}{#2}%
}

\newcommand*\glsdetoklabel}[1]{#1}
\newcommand{\ifglsentryexists}[3]{%
 \ifcsundef{glo@\glsdetoklabel{#1}@name}{#3}{#2}%
}

\newcommand*\ifglsused}[3]{%
 \ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}%
}

\newcommand{\glsdoifexists}[2]{%
 \ifglsentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}}%
}

\newcommand{\glsdoifnoexists}[2]{%
 \ifglsentryexists{#1}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’ has already
 been defined}{}}{#2}%
}

\newcommand{\glsdoifexistsorwarn}[2]{%
 \ifglsentryexists{#1}{#2}{%
 \GlossariesWarning{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}%
 }%
}

```

```

}
\newcommand{\glsdoifexistsordo}[3]{%
 \ifglsentryexists{#1}{#2}{%
 \PackageError{glossaries}{Glossary entry ‘\glsdetoklabel{#1}’
 has not been defined}{You need to define a glossary entry before you
 can use it.}%
 #3%
 }%
}
\newcommand{\doifglossarynoexistsordo}[3]{%
 \ifglossaryexists*{#1}%
 {%
 \PackageError{glossaries}{Glossary type ‘#1’ already exists}{}%
 #3%
 }%
 {#2}%
}
\newrobustcmd{\ifglshaschildren}[3]{%
 \glsdoifexists{#1}%
 {%
 \def\do@glshaschildren{#3}%
 \protected@edef\@gls@thislabel{\glsdetoklabel{#1}}%
 \expandafter\for@gl@sentries\expandafter
 [\csname glo@\@gls@thislabel @type\endcsname]
 {\glo@label}%
 {%
 \letcs\glo@parent{glo@\glo@label @parent}%
 \ifdefequal\@gls@thislabel\glo@parent
 {%
 \def\do@glshaschildren{#2}%
 \@endfortrue
 }%
 }%
 }%
 \do@glshaschildren
 }%
}
\newcommand{\ifglshasparent}[3]{%
 \glsdoifexists{#1}%
 {%
 \ifcsemtyp{glo@\glsdetoklabel{#1}@parent}{#3}{#2}%
 }%
}
\newcommand*{\ifglshasdesc}[3]{%
 \ifcsemtyp{glo@\glsdetoklabel{#1}@desc}%
 {#3}%
 {#2}%
}
\newcommand*{\ifglshasdescsuppressed}[3]{%
 \ifcsequal{glo@\glsdetoklabel{#1}@desc}{@no@post@desc}%

```

```

 {#2}%
 {#3}%
 }
\newrobustcmd*{\ifglshassymbol}[3]{%
 \letcs{\@glo@symbol}{glo@glstdetoklabel{#1}@symbol}%
 \ifdefempty\@glo@symbol
 {#3}%
 {%
 \ifdefequal\@glo@symbol\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
}
\newrobustcmd*{\ifglshaslong}[3]{%
 \letcs{\@glo@long}{glo@glstdetoklabel{#1}@long}%
 \ifdefempty\@glo@long
 {#3}%
 {%
 \ifdefequal\@glo@long\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
}
\newrobustcmd*{\ifglshasshort}[3]{%
 \letcs{\@glo@short}{glo@glstdetoklabel{#1}@short}%
 \ifdefempty\@glo@short
 {#3}%
 {%
 \ifdefequal\@glo@short\@gls@default@value
 {#3}%
 {#2}%
 }%
 }
}
}
\newcommand{\ifglsfieldvoid}[4]{\ifcsvoid{glo@glstdetoklabel{#2}@#1}{#3}{#4}}
\newrobustcmd*{\ifglshasfield}[4]{%
 \glsdoifexists{#2}%
 {%
 \letcs{\@glo@thisvalue}{glo@glstdetoklabel{#2}@#1}%
 \ifdef\@glo@thisvalue
 {%
 \ifdefempty\@glo@thisvalue
 {%
 #4%
 }%
 }%
 }%
 \ifdefequal\@glo@thisvalue\@gls@default@value
 {%
 #4%
 }%
 }%
 }

```

```

 \let\glscurrentfieldvalue\@glo@thisvalue
 #3%
 }%
}
}
}
{
\gls@fetchfield{\@gls@thisfield}{#1}%
\ifdef\@gls@thisfield
{
\letcs{\@glo@thisvalue}{glo@glstetoklabel{#2}@ \@gls@thisfield}%
\ifdefempty\@glo@thisvalue
{
#4%
}%
{
\ifdefequal\@glo@thisvalue\@gls@default@value
{
#4%
}%
{
\let\glscurrentfieldvalue\@glo@thisvalue
#3%
}%
}%
}%
{
\GlossariesWarning{Unknown entry field '#1'}%
#4%
}%
}%
}
}
\newcommand*{\glscurrentfieldvalue}{}
\newcommand*{\@glo@types}{,}
\newcommand*\@gls@provide@newglossary{%
\protected@write\@auxout{}{\string\providecommand\string\@newglossary[4]{}}%
\let\@gls@provide@newglossary\relax
}
\newcommand*{\@gls@defaulttype}{\glsdefaulttype}
\newcommand*{\defglsentryfmt}[2][\glsdefaulttype]{%
\protected@edef\@glo@tmp{#1}%
\ifx\@glo@tmp\@gls@defaulttype
\GlossariesWarning{\string\defglsentryfmt\space attempting to set
a display style for \string\glsdefaulttype\space but there
doesn't seem to be a default glossary. If you have used
'nomain', you need to define an alternative glossary}%
\else
\csgdef{gls@\@glo@tmp @entryfmt}{#2}%
\fi
}
}

```



```

\newcommand*\gls@doentryfmt}[1]{\csuse{gls@#1@entryfmt}}
\newcommand*\@gls@forbidtext}[1]{%
\ifboolexpr{test {\ifdefstring{#1}{tex}}
or test {\ifdefstring{#1}{TEX}}}
{%
\def#1{nottex}%
\PackageError{glossaries}%
{Forbidden '.tex' extension replaced with '.nottex'}%
{I'm sorry, I can't allow you to do something so reckless.\MessageBreak
Don't use '.tex' as an extension for a temporary file.}%
}%
}%
}%
}
\newcommand*\gls@gobbleopt}{\new@ifnextchar[{\@gls@gobbleopt}{}]}
\def\@gls@gobbleopt[#1]{%
\newcommand*\@newglossary}{\@ifstar\s@newglossary\ns@newglossary}
\newcommand*\s@newglossary}[2]{%
\ns@newglossary[#1-glg]{#1}{#1-gls}{#1-glo}{#2}%
}
\newcommand*\ns@newglossary}[5][glg]{%
\doifglossarynoexistsordo{#2}%
{%
\ifundef\glsdefaulttype
{%
\gdef\glsdefaulttype{#2}%
}{}%
\toks@{#2}\protected@edef\@glo@types{\@glo@types\the\toks@,}%
\expandafter\gdef\csname glolist@#2\endcsname{,}%
\expandafter\edef\csname @glotype@#2@log\endcsname{#1}%
\expandafter\edef\csname @glotype@#2@in\endcsname{#3}%
\expandafter\edef\csname @glotype@#2@out\endcsname{#4}%
\expandafter\@gls@forbidtext\csname @glotype@#2@log\endcsname
\expandafter\@gls@forbidtext\csname @glotype@#2@in\endcsname
\expandafter\@gls@forbidtext\csname @glotype@#2@out\endcsname
\expandafter\def\csname @glotype@#2@title\endcsname{#5}%
\@gls@provide@newglossary
\protected@write\@auxout{}{\string\@newglossary{#2}{#1}{#3}{#4}}%
\ifcsundef{gls@#2@entryfmt}%
{%
\defglsentryfmt[#2]{\glsentryfmt}%
}%
}%
\@gls@defsortcount{#2}%
\@ifnextchar[{\@gls@setcounter{#2}}]{%
{\@gls@setcounter{#2}[\glscounter]}}%
}%
}%
\gls@gobbleopt
}%

```

```

}
\newcommand*\altnewglossary}[3]{%
 \newglossary[#2-glg]{#1}{#2-gls}{#2-glo}{#3}%
}
\@onlypreamble{\newglossary}
\@onlypremakeg\newglossary
\newcommand*\@newglossary}[4]{%
\def\@gls@setcounter#1[#2]{%
 \expandafter\def\csname @glotype@#1@counter\endcsname{#2}%
 \ifglsxindy
 \GlsAddXdyCounters{#2}%
 \fi
}
\newcommand*\@gls@getcounter}[1]{%
\csname @glotype@#1@counter\endcsname
}
\glsdefmain
\@gls@do@acronymsdef
\@gls@do@symbolsdef
\@gls@do@numbersdef
\@gls@do@indexdef
\newcommand*\newignoredglossary}[1]{%
 \ifdefempty\@ignored@glossaries
 {%
 \protected@edef\@ignored@glossaries{#1}%
 }%
 {%
 \protected@eappto\@ignored@glossaries{, #1}%
 }%
 \csgdef{glolist@#1}{,}%
 \ifcsundef{gls@#1@entryfmt}%
 {%
 \defglsentryfmt[#1]{\glsentryfmt}%
 }%
 {}%
 \ifdefempty\@gls@nohyperlist
 {%
 \renewcommand*\@gls@nohyperlist{#1}%
 }%
 {%
 \protected@eappto\@gls@nohyperlist{, #1}%
 }%
}
\newcommand*\@ignored@glossaries{}
\newcommand*\ifignoredglossary}[3]{%
 \protected@edef\@gls@igtype{#1}%
 \expandafter\DTLifinlist\expandafter
 {\@gls@igtype}{\@ignored@glossaries}{#2}{#3}%
}
\define@key{glossentry}{name}{%

```

```

\def\@glo@name{#1}%
}
\define@key{glossentry}{description}{%
\def\@glo@desc{#1}%
}
\define@key{glossentry}{descriptionplural}{%
\def\@glo@descplural{#1}%
}
\define@key{glossentry}{sort}{%
\def\@glo@sort{#1}}
\define@key{glossentry}{text}{%
\def\@glo@text{#1}%
}
\define@key{glossentry}{plural}{%
\def\@glo@plural{#1}%
}
\define@key{glossentry}{first}{%
\def\@glo@first{#1}%
}
\define@key{glossentry}{firstplural}{%
\def\@glo@firstplural{#1}%
}
\newcommand*\@gls@default@value{\relax}
\define@key{glossentry}{symbol}{%
\def\@glo@symbol{#1}%
}
\define@key{glossentry}{symbolplural}{%
\def\@glo@symbolplural{#1}%
}
\define@key{glossentry}{type}{%
\def\@glo@type{#1}}
\define@key{glossentry}{counter}{%
\ifcsundef{c@#1}%
{%
\PackageError{glossaries}%
{There is no counter called ‘#1’}%
{%
The counter key should have the name of a valid counter
as its value%
}%
}%
\def\@glo@counter{#1}%
}%
}
\define@key{glossentry}{see}{%
\gls@set@xr@key{see}{\@glo@see}{#1}%
}
\newcommand*\@gls@set@xr@key[3]{%
\renewcommand*\@gls@xr@key{#1}%
}

```

```

\gls@checkseeallowed
\def#2{#3}%
\@glo@seeautonumberlist
}
\newcommand*{\gls@xr@key}{see}
\newcommand*{\gls@checkseeallowed}{%
\@gls@see@noindex
}
\newcommand*{\gls@checkseeallowed@preambleonly}{%
\GlossariesWarning
{'\gls@xr@key' key doesn't have any effect when used in the document
environment. Move the definition to the preamble
after \string\makeglossaries\space
or \string\makenoidxglossaries}%
}
\define@key{glossentry}{parent}{%
\def\@glo@parent{#1}}
\define@choicekey{glossentry}{nonumberlist}{%
[\@gls@nonumberlist@val\@gls@nonumberlist@nr]{true,false}[true]}%
{
\ifcase\@gls@nonumberlist@nr\relax
\def\@glo@prefix{\@gls@nonextpages}%
\@gls@savenonumberlist{true}%
\else
\def\@glo@prefix{\@gls@nextpages}%
\@gls@savenonumberlist{false}%
\fi
}
\newcommand*{\@gls@noidx@nonumberlist}[1]{%
\cslet\@glo@\@glo@label @prenumberlist}\@glo@prefix
}%
\newcommand*\@gls@noidx@prenumberlist}[1]{%
\csuse\@glo@\@gls@detoklabel{#1}@prenumberlist}
\newcommand*{\@gls@savenonumberlist}[1]{}
\newcommand*{\@gls@initnonumberlist}{}%
\newcommand*{\@gls@storenonumberlist}[1]{}
\newcommand*{\@gls@enablesavenonumberlist}{%
\renewcommand*{\@gls@initnonumberlist}{%
\undef\@glo@nonumberlist
}%
\renewcommand*{\@gls@savenonumberlist}[1]{%
\def\@glo@nonumberlist{##1}%
}%
\renewcommand*{\@gls@storenonumberlist}[1]{%
\ifdef\@glo@nonumberlist
{
\cslet\@glo@\@gls@detoklabel{##1}@nonumberlist}\@glo@nonumberlist}%
}%
{}%
}%

```

```

\appto\@gls@keymap{,{nonumberlist}{nonumberlist}}%
}
\define@key{glossentry}{user1}{%
 \def\@glo@useri{#1}%
}
\define@key{glossentry}{user2}{%
 \def\@glo@userii{#1}%
}
\define@key{glossentry}{user3}{%
 \def\@glo@useriii{#1}%
}
\define@key{glossentry}{user4}{%
 \def\@glo@useriv{#1}%
}
\define@key{glossentry}{user5}{%
 \def\@glo@userv{#1}%
}
\define@key{glossentry}{user6}{%
 \def\@glo@uservi{#1}%
}
\define@key{glossentry}{short}{%
 \def\@glo@short{#1}%
}
\define@key{glossentry}{shortplural}{%
 \def\@glo@shortpl{#1}%
}
\define@key{glossentry}{long}{%
 \def\@glo@long{#1}%
}
\define@key{glossentry}{longplural}{%
 \def\@glo@longpl{#1}%
}
\newcommand*\@glsnoname}{%
 \PackageError{glossaries}{name key required in
 \string\newglossaryentry\space for entry '@glo@label'}{You
 haven't specified the entry name}}
\newcommand*\@glsnodesc{%
 \PackageError{glossaries}
 {%
 description key required in \string\newglossaryentry\space
 for entry '@glo@label'%
 }%
 {%
 You haven't specified the entry description%
 }%
}%
\newcommand*\@gls@missingnumberlist}[1]{%
 ??%
 \iflssavenumberlist
 \GlossariesWarning{Missing number list for entry '#1'}.

```

```

 Maybe makeglossaries + rerun required}%
\else
\PackageError{glossaries}%
{Package option 'savenumberlist=true' required}%
{%
 You must use the 'savenumberlist' package option
 to reference location lists.%
}%
\fi
}
\newcommand*{\@glsdefaultsort}{\@glo@name}
\newcount\gls@level
\newcommand{\@gls@noexpand@field}[3]{%
\expandafter\global\expandafter
 \let\csname glo@#1@#2\endcsname#3%
}
\newcommand{\@gls@noexpand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
 }%
 {%
 \csuse{gls@assign@#3@field}{#2}{#4}%
 }%
}%
\ifdefequal{#4}{\@gls@default@value}%
{%
 \edef\@gls@value{\expandonce{#1}}%
 \@gls@noexpand@field{#2}{#3}{\@gls@value}%
}%
\@gls@noexpand@field{#2}{#3}{#4}%
}%
}
\newcommand{\@gls@expand@field}[3]{%
\expandafter
 \protected@xdef\csname glo@#1@#2\endcsname{#3}%
}
\newcommand{\@gls@expand@fields}[4]{%
\ifcsdef{gls@assign@#3@field}
{%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \edef\@gls@value{\expandonce{#1}}%
 \csuse{gls@assign@#3@field}{#2}{\@gls@value}%
 }%
}
}

```

```

}%
{%
 \expandafter\@gls@startswithexpandonce#4\relax\relax\gls@endcheck
 {%
 \@@gls@expand@field{#2}{#3}{#4}%
 }%
 {%
 \csuse{gls@assign@#3@field}{#2}{#4}%
 }%
}%
}%
{%
 \ifdefequal{#4}{\@gls@default@value}%
 {%
 \@@gls@expand@field{#2}{#3}{#1}%
 }%
 {%
 \@@gls@expand@field{#2}{#3}{#4}%
 }%
}%
}
\def\@gls@expandonce{\expandonce}
\def\@gls@startswithexpandonce#1#2\gls@endcheck#3#4{%
 \def\@gls@tmp{#1}%
 \ifdefequal{\@gls@expandonce}{\@gls@tmp}{#3}{#4}%
}
\let\gls@assign@field\@gls@expand@fields
\newcommand*\@gls@expandfields{%
 \let\gls@assign@field\@gls@expand@fields
}
\newcommand*\@gls@noexpandfields{%
 \let\gls@assign@field\@gls@noexpand@fields
}
\newrobustcmd{\newglossaryentry}[2]{%
 \glsdoifnoexists{#1}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\newcommand*\@gls@defdocnewglossaryentry{%
 \let\newglossaryentry\new@glossaryentry
}
\newrobustcmd{\provideglossaryentry}[2]{%
 \ifglsentryexists{#1}%
 {}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\@onlypreamble{\provideglossaryentry}

```

```

\newcommand*\gls@glsdefs@labellist}{
\newcommand*\gls@glsdefs@addlabel}[1]{\listxadd{\gls@glsdefs@labellist}{#1}}
\newcommand*\gls@docdef@labellist}{
\newcommand*\gls@docdef@addlabel}[1]{\listxadd{\gls@docdef@labellist}{#1}}
\newrobustcmd{\new@glossaryentry}[2]{%
 \ifundef\@gls@deffile
 {%
 \global\newwrite\@gls@deffile
 \immediate\openout\@gls@deffile=\jobname.glsdefs
 }%
 }%
\ifglsentryexists{#1}%
{%
 \xifinlist{#1}{\gls@docdef@labellist}%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in the
 document environment (ignoring new definition)}%
 }%
 {%
 \xifinlist{#1}{\gls@glsdefs@labellist}%
 {%
 \gls@defglossaryentry{#1}{#2}%
 \gls@docdef@addlabel{#1}%
 \@gls@writedef{#1}%
 }%
 {%
 \GlossariesWarning{Entry ‘#1’ has already been defined in
 the preamble (in which case remove the duplicate definition)
 or you have just updated to glossaries.sty
 v4.47 (in which case delete ‘\jobname.glsdefs’)}%
 }%
 }%
}
}
\AtBeginDocument{\gls@begindocdefs}
\AtEndDocument{\ifdef\@gls@deffile{\closeout\@gls@deffile}{}}
\newcommand*\gls@begindocdefs){%
 \@gls@enablesavenonumberlist
 \edef\@gls@restreat{\noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
 \makeatletter
 \InputIfFileExists{\jobname.glsdefs}{}{%
 \@gls@restreat
 \undef\@gls@restreat
 \gls@defdocnewglossaryentry
}

```



```

\newcommand*\glsdefs@newdocentry}[2]{%
 \ifglsentryexists{#1}%
 {\GlossariesWarning{entry ‘#1’ has already been defined in the preamble
 (if you have moved the definition there from the document
 environment, delete \jobname.glsdefs)}}%
 {%
 \gls@glsdefs@addlabel{#1}%
 \gls@defglossaryentry{#1}{#2}%
 }%
}
\newcommand*\@gls@writedef}[1]{%
 \immediate\write\@gls@deffile
 {%
 \string\glsdefs@newdocentry{\glsdetoklabel{#1}}\glspercentchar^^J%
 \expandafter@gobble\string{\glspercentchar%
 }%
 \@for\@gls@map:=\@gls@keymap\do
 {%
 \letcs@glo@value{glo@\glsdetoklabel{#1}@\expandafter@secondoftwo\@gls@map}%
 \ifdef@glo@value
 {%
 \@onelevel@sanitize@glo@value
 \immediate\write\@gls@deffile
 {%
 \expandafter@firstoftwo\@gls@map
 =\expandafter@gobble\string{\glo@value\expandafter@gobble\string\},%
 \glspercentchar
 }%
 }%
 }%
 {}%
}%
\gls@writedefhook
\immediate\write\@gls@deffile
{%
 \glspercentchar^^J%
 \expandafter@gobble\string\}\glspercentchar^^J%
}%
}
\newcommand*\@gls@keymap}{%
 {name}{name},%
 {sort}{sortvalue},% unescaped sort value
 {type}{type},%
 {first}{first},%
 {firstplural}{firstpl},%
 {text}{text},%
 {plural}{plural},%
 {description}{desc},%
 {descriptionplural}{descplural},%
 {symbol}{symbol},%
 {symbolplural}{symbolplural},%

```

```

{user1}{useri},%
{user2}{userii},%
{user3}{useriii},%
{user4}{useriv},%
{user5}{userv},%
{user6}{uservi},%
{long}{long},%
{longplural}{longpl},%
{short}{short},%
{shortplural}{shortpl},%
{counter}{counter},%
{parent}{parent}%
}
\newcommand*{\@gls@fetchfield}[2]{%
 \edef\@gls@thisval{#2}%
 \@for\@gls@map:=\@gls@keymap\do{%
 \edef\@this@key{\expandafter\@firstoftwo\@gls@map}%
 \ifdefequal{\@this@key}{\@gls@thisval}%
 {%
 \edef#1{\expandafter\@secondoftwo\@gls@map}%
 \@endfortrue
 }%
 }%
 }%
}
\newcommand*{\glsaddstoragekey}{\@ifstar\@sglsaddstoragekey\@glsaddstoragekey}
\newcommand*{\@sglsaddstoragekey}[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
 }%
 \@glsaddstoragekey{#1}%
}
\newcommand*{\@glsaddstoragekey}[3]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
 \appto\@gls@keymap{, {#1}{#1}}%
 \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
 \appto\@newglossaryentryposthook{%
 \letcs{\@glo@tmp}{@glo@#1}%
 \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
 }%
 \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
 }%
 }%

```

```

 \PackageError{glossaries}{Key ‘#1’ already exists}{}%
 }%
}
\newcommand*\glsaddkey{\@ifstar\@sglsaddkey\@glsaddkey}
\newcommand*\@sglsaddkey[1]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname gls@assign@#1@field\endcsname}[2]{%
 \@gls@expand@field{##1}{#1}{##2}%
 }%
 }%
}%
\@glsaddkey{#1}%
}
\newcommand*\@glsaddkey[7]{%
 \key@ifundefined{glossentry}{#1}%
 {%
 \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
 \appto\@gls@keymap{, {#1}{#1}}%
 \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
 \appto\@newglossaryentryposthook{%
 \letcs{@glo@tmp}{@glo@#1}%
 \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
 }%
 \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
 \newcommand*{#4}[1]{\@Glsentryfield{##1}{#1}}%
 \ifcsdef{@gls@user@#1@}%
 {%
 \PackageError{glossaries}%
 {Can’t define ‘\string#5’ as helper command
 ‘\expandafter\string\csname @gls@user@#1@\endcsname’ already exists}%
 }%
 }%
 {%
 \expandafter\newcommand\expandafter*\expandafter
 {\csname @gls@user@#1\endcsname}[2] [] {%
 \new@ifnextchar [%
 {\csuse{@gls@user@#1@}{##1}{##2}}%
 {\csuse{@gls@user@#1@}{##1}{##2} []}}%
 \csdef{@gls@user@#1@}##1##2[##3]{%
 \@gls@field@link{##1}{##2}{#3{##2}##3}%
 }%
 }%
 \newrobustcmd*{#5}{%
 \expandafter\@gls@hyp@opt\csname @gls@user@#1\endcsname}%
 }%
 \ifcsdef{@Gls@user@#1@}%
 {%
 \PackageError{glossaries}%
 {Can’t define ‘\string#6’ as helper command

```

```

 '\expandafter\string\csname @Gls@user@#1@\endcsname' already exists}%
 }%
}%
{
\expandafter\newcommand\expandafter*\expandafter
 {\csname @Gls@user@#1@\endcsname}[2] [] {%
 \new@ifnextchar [%
 {\csuse{@Gls@user@#1@}{##1}{##2}}%
 {\csuse{@Gls@user@#1@}{##1}{##2} []}}%
\csdef{@Gls@user@#1@}##1##2[##3] {%
 \gls@field@link{##1}{##2}{#4{##2}##3}%
}%
\newrobustcmd*{#6}{%
 \expandafter\@gls@hyp@opt\csname @Gls@user@#1@\endcsname}%
}%
\ifcsdef{@GLS@user@#1@}%
{
 \PackageError{glossaries}%
 {Can't define '\string#7' as helper command
 '\expandafter\string\csname @GLS@user@#1@\endcsname' already exists}%
 {}%
}%
{
\expandafter\newcommand\expandafter*\expandafter
 {\csname @GLS@user@#1@\endcsname}[2] [] {%
 \new@ifnextchar [%
 {\csuse{@GLS@user@#1@}{##1}{##2}}%
 {\csuse{@GLS@user@#1@}{##1}{##2} []}}%
\csdef{@GLS@user@#1@}##1##2[##3] {%
 \@gls@field@link{##1}{##2}{\glsuppercase{#3{##2}##3}}%
}%
\newrobustcmd*{#7}{%
 \expandafter\@gls@hyp@opt\csname @GLS@user@#1@\endcsname}%
}%
\glsmfuaddmap{#3}{#4}%
\glsmfuaddmap{#5}{#6}%
\glsmfublocker{#7}%
}%
{
 \PackageError{glossaries}{Key '#1' already exists}{}%
}%
}
\newrobustcmd{\glsfieldxdef}[3] {%
\glsdoifexists{#1}%
{
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {
 \protected@csxdef{glo@\@glo@label @#2}{#3}%
 }%
}
}

```

```

 {%
 \PackageError{glossaries}{Field '#2' doesn't exist}{}%
 }%
 }%
}
\newrobustcmd{\glsfielddedf}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \protected@csedef{glo@\@glo@label @#2}{#3}%
 }%
 {%
 \PackageError{glossaries}{Field '#2' doesn't exist}{}%
 }%
 }%
}
\newrobustcmd{\glsfieldgdef}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\gdef\csname glo@\@glo@label @#2\endcsname{#3}%
 }%
 {%
 \PackageError{glossaries}{Field '#2' doesn't exist}{}%
 }%
 }%
}
\newrobustcmd{\glsfieldddf}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\def\csname glo@\@glo@label @#2\endcsname{#3}%
 }%
 {%
 \PackageError{glossaries}{Field '#2' doesn't exist}{}%
 }%
 }%
}
\newrobustcmd{\glsfieldfetch}[3]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%

```

```

 \letcs#3{glo@\@glo@label @#2}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
}
}
\newcommand*{\glsunexpandedfieldvalue}[2]{%
 \ifcsname glo@\glsdetoklabel{#1}@#2\endcsname
 \expandafter\expandonce\csname glo@\glsdetoklabel{#1}@#2\expandafter\endcsname
 \fi
}
\newrobustcmd{\ifglsfieldeq}[5]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \ifcsstring{glo@\@glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
 }%
}
\newrobustcmd{\ifglsfielddefeq}[5]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \expandafter\ifdefstrequal\csname glo@\@glo@label @#2\endcsname{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Field ‘#2’ doesn’t exist}{}%
 }%
 }%
}
\newcommand{\ifglsfieldcseq}[5]{%
 \glsdoifexists{#1}%
 {%
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \ifcsdef{glo@\@glo@label @#2}%
 {%
 \ifcsstrequal{glo@\@glo@label @#2}{#3}{#4}{#5}%
 }%
 {%
 \PackageError{glossaries}{Key ‘#2’ doesn’t exist}{}%
 }%
 }%
}

```

```

}
\newcommand*\gls.writedefhook{}
\newcommand*\gls.assign@desc}[1]{%
 \gls.assign@field{#1}{desc}{\@glo@desc}%
 \gls.assign@field{\@glo@desc}{#1}{descplural}{\@glo@descplural}%
}
\newcommand*\longnewglossaryentry}[3]{%
 \gls.doifnoexists{#1}%
 {%
 \bgroup
 \let\@org@newglossaryentryprehook\@newglossaryentryprehook
 \long\def\@newglossaryentryprehook{%
 \long\def\@glo@desc{#3\leavevmode\unskip\nopostdesc}%
 \@org@newglossaryentryprehook
 }%
 \renewcommand*\gls.assign@desc}[1]{%
 \global\cslet{glo@\gls.detoklabel{#1}@desc}{\@glo@desc}%
 \global\cslet{glo@\gls.detoklabel{#1}@descplural}{\@glo@desc}%
 }
 \gls.defglossaryentry{#1}{#2}%
 }
}
\@onlypreamble{\longnewglossaryentry}
\newcommand*\longprovideglossaryentry}[3]{%
 \ifglsentryexists{#1}{%
 {\longnewglossaryentry{#1}{#2}{#3}}%
 }
}
\@onlypreamble{\longprovideglossaryentry}
\newcommand*\gls.defglossaryentry}[2]{%
 \let\GlsSetQuote\gls.nosetquote
 \protected@edef\@glo@label{\gls.detoklabel{#1}}%
 \let\glslabel\@glo@label
 \let\@glo@name\@glsnoname
 \let\@glo@desc\@glsnodesc
 \let\@glo@descplural\@gls@default@value
 \let\@glo@type\@gls@default@value
 \let\@glo@symbol\@gls@default@value
 \let\@glo@symbolplural\@gls@default@value
 \let\@glo@text\@gls@default@value
 \let\@glo@plural\@gls@default@value
 \let\@glo@first\@gls@default@value
 \let\@glo@firstplural\@gls@default@value
 \let\@glo@sort\@gls@default@value
 \let\@glo@counter\@gls@default@value
 \def\@glo@see{}%
 \def\@glo@parent{}%
 \def\@glo@prefix{}%
 \@gls@initnonumberlist
 \def\@glo@useri{}%

```

```

\def@glo@userii{%
\def@glo@useriii{%
\def@glo@useriv{%
\def@glo@userv{%
\def@glo@uservi{%
\def@glo@short{%
\def@glo@shortpl{%
\def@glo@long{%
\def@glo@longpl{%
\@newglossaryentryprehook
\setkeys{glossentry}{#2}%
\ifundef\glsdefaulttype
{%
 \PackageError{glossaries}%
 {No default glossary type (have you used ‘nomain’ by mistake?)}%
 {If you use package option ‘nomain’ you must define
 a new glossary before you can define entries}%
}%
{}%
\gls@assign@field{\glsdefaulttype}{\@glo@label}{type}{\@glo@type}%
\protected@edef@glo@type{\glsentrytype{\@glo@label}}%
\ifcsundef{glolist@\@glo@type}%
{%
 \PackageError{glossaries}%
 {Glossary type ‘\@glo@type’ has not been defined}%
 {You need to define a new glossary type, before making entries
 in it}%
}%
{%
 \ifignoredglossary@glo@type
 {%
 \ifx@glo@desc@glsnodesc
 \let@glo@desc@empty
 \fi
 }%
 {%
 }%
 \protected@edef@glolist@{\csname glolist@\@glo@type\endcsname}%
 \expandafter\protected@xdef\csname glolist@\@glo@type\endcsname{%
 \@glolist@{\@glo@label},}%
 }%
\gls@level=0\relax
\ifx@glo@parent@empty
\expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
\else
\ifdefequal@glo@label@glo@parent%
{%
 \PackageError{glossaries}{Entry ‘\@glo@label’ can’t be its own parent}{}%
 \def@glo@parent{}%
 \expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
}

```



```

}%
{%
\ifglsentryexists{\@glo@parent}%
{%
\expandafter\protected@xdef\csname glo@\@glo@label @parent\endcsname{%
\@glo@parent}%
\gls@level=\csname glo@\@glo@parent @level\endcsname\relax
\advance\gls@level by 1\relax
\ifx\@glo@name\@glsnoname
\expandafter\let\expandafter\@glo@name
\csname glo@\@glo@parent @name\endcsname
\ifx\@glo@plural\@gls@default@value
\expandafter\let\expandafter\@glo@plural
\csname glo@\@glo@parent @plural\endcsname
\fi
\fi
}%
{%
\PackageError{glossaries}%
{%
Invalid parent ‘\@glo@parent’
for entry ‘\@glo@label’ - parent doesn’t exist%
}%
{%
Parent entries must be defined before their children%
}%
\def\@glo@parent{}%
\expandafter\gdef\csname glo@\@glo@label @parent\endcsname{}%
}%
}%
\fi
\expandafter\xdef\csname glo@\@glo@label @level\endcsname{\number\gls@level}%
\gls@assign@field{\@glo@name}{\@glo@label}{sortvalue}{\@glo@sort}%
\letcs\@glo@sort{glo@\@glo@label @sortvalue}%
\gls@assign@field{\@glo@name}{\@glo@label}{text}{\@glo@text}%
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @text\endcsname\glspluralsuffix}%
{\@glo@label}{plural}{\@glo@plural}%
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @text\endcsname}%
{\@glo@label}{first}{\@glo@first}%
\ifx\@glo@first\@gls@default@value
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @plural\endcsname}%
{\@glo@label}{firstpl}{\@glo@firstplural}%
\else
\expandafter\gls@assign@field\expandafter
{\csname glo@\@glo@label @first\endcsname\glspluralsuffix}%
{\@glo@label}{firstpl}{\@glo@firstplural}%
\fi

```

```

\ifcsundef{@glo@type@\@glo@type @counter}%
{%
 \def\@glo@defaultcounter{\glscounter}%
}%
{%
 \letcs\@glo@defaultcounter{@glo@type@\@glo@type @counter}%
}%
\gls@assign@field{\@glo@defaultcounter}{\@glo@label}{counter}{\@glo@counter}%
\gls@assign@field{}{\@glo@label}{useri}{\@glo@useri}%
\gls@assign@field{}{\@glo@label}{userii}{\@glo@userii}%
\gls@assign@field{}{\@glo@label}{useriii}{\@glo@useriii}%
\gls@assign@field{}{\@glo@label}{useriv}{\@glo@useriv}%
\gls@assign@field{}{\@glo@label}{userv}{\@glo@userv}%
\gls@assign@field{}{\@glo@label}{uservi}{\@glo@uservi}%
\gls@assign@field{}{\@glo@label}{short}{\@glo@short}%
\gls@assign@field{}{\@glo@label}{shortpl}{\@glo@shortpl}%
\gls@assign@field{}{\@glo@label}{long}{\@glo@long}%
\gls@assign@field{}{\@glo@label}{longpl}{\@glo@longpl}%
\ifx\@glo@name\@glsnname
 \glsnname
 \let\@glo@name\@gls@default@value
\fi
\gls@assign@field{}{\@glo@label}{name}{\@glo@name}%
\ifcsundef{glo@\@glo@label @numberlist}%
{%
 \csxdef{glo@\@glo@label @numberlist}{%
 \noexpand\@gls@missingnumberlist{\@glo@label}}%
}%
}%
\@gls@storenonumberlist{\@glo@label}%
\def\@glo@@desc{\@glo@first}%
\ifx\@glo@desc\@glo@@desc
 \let\@glo@desc\@glo@first
\fi
\ifx\@glo@desc\@glsnodesc
 \glsnodesc
 \let\@glo@desc\@gls@default@value
\fi
\gls@assign@desc{\@glo@label}%
\@gls@defsort{\@glo@type}{\@glo@label}%
\def\@glo@@symbol{\@glo@text}%
\ifx\@glo@symbol\@glo@@symbol
 \let\@glo@symbol\@glo@text
\fi
\gls@assign@field{\relax}{\@glo@label}{symbol}{\@glo@symbol}%
\expandafter
 \gls@assign@field\expandafter
 {csname glo@\@glo@label @symbol\endcsname}
 {\@glo@label}{symbolplural}{\@glo@symbolplural}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagfalse\endcsname{%

```

```

\noexpand\global
\noexpand\let\expandafter\noexpand
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iffalse
}%
\expandafter\protected@xdef\csname glo@\@glo@label @flagtrue\endcsname{%
\noexpand\global
\noexpand\let\expandafter\noexpand
\csname ifglo@\@glo@label @flag\endcsname\noexpand\iftrue
}%
\csname glo@\@glo@label @flagfalse\endcsname
\@glo@autosee
\ifignoredglossary\@glo@type
{%
\csdef{glo@\@glo@label @index}{}%
}
{%
\do@glo@storeentry{\@glo@label}%
}%
\@newglossaryentry@defcounters
\@newglossaryentryposthook
}
\newcommand*{\@glo@autosee}{%
\ifdefvoid\@glo@see{%
{%
\protected@edef\@do@glssee{%
\noexpand\@gls@fixbraces\noexpand\@glo@list\@glo@see\noexpand\@nil
\noexpand\expandafter\noexpand\@glssee\noexpand\@glo@list{\@glo@label}}%
\@do@glssee
}%
\@glo@autoseehook
}%
\newcommand*{\@glo@autoseehook}{%
\newcommand*{\@newglossaryentryprehook}{%
\newcommand*{\@newglossaryentryposthook}{%
\newcommand*{\@newglossaryentry@defcounters}{%
\newcommand*{\glsmoveentry}[2]{%
\protected@edef\@glo@thislabel{\glsdetoklabel{#1}}%
\protected@edef\glo@type{\csname glo@\@glo@thislabel @type\endcsname}%
\def\glo@list{,%
\for@gl@sentries[\@glo@type]{\@glo@label}%
{%
\ifdefequal\@glo@thislabel\@glo@label
}{\protected@eappto\@glo@list{\@glo@label,}}%
}%
\cslet\glo@list@\@glo@type{\@glo@list}%
\csdef{glo@\@glo@thislabel @type}{#2}%
}
\ifglxsindy
\newcommand*{\@glossaryentryfield}{\string\@glossentry}
\else

```

```

\newcommand*{\@glossaryentryfield}{\string\glossentry}
\fi
\ifglxindy
\newcommand*{\@glossarysubentryfield}{%
\string\subglossentry}
\else
\newcommand*{\@glossarysubentryfield}{%
\string\subglossentry}
\fi
\newcommand{\@glo@storeentry}[1]{%
\protected@edef\@glo@esclabel{#1}%
\@gls@checkmkidxchars\@glo@esclabel
\protected@edef\@glo@sort{\csname glo@#1@sort\endcsname}%
\@gls@checkmkidxchars\@glo@sort
\@gls@checkmkidxchars\@glo@prefix
\protected@edef\@glo@parent{\csname glo@#1@parent\endcsname}%
\ifglxindy
\ifx\@glo@parent\@empty
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
(\string"\@glo@sort\string" %
\string"\@glo@prefix\@glossaryentryfield{\@glo@esclabel}\string") %
}%
\else
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
\csname glo@\@glo@parent @index\endcsname
(\string"\@glo@sort\string" %
\string"\@glo@prefix\@glossarysubentryfield
{\csname glo@#1@level\endcsname}{\@glo@esclabel}\string") %
}%
\fi
\else
\ifx\@glo@parent\@empty
\@onelevel@sanitize\@glo@prefix
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
\@glo@sort\@gls@actualchar\@glo@prefix
\@glossaryentryfield{\@glo@esclabel}%
}%
\else
\expandafter\protected@xdef\csname glo@#1@index\endcsname{%
\csname glo@\@glo@parent @index\endcsname\@gls@levelchar
\@glo@sort\@gls@actualchar\@glo@prefix
\@glossarysubentryfield
{\csname glo@#1@level\endcsname}{\@glo@esclabel}%
}%
\fi
\fi
}
\newcommand*{\@gls@if@measuring}[2]{%
\ifmeasuring@
#1%

```

```

\else
 #2%
\fi
}
\let\gls@org@refstepcounter\refstepcounter
\let\gls@org@label\label
\newcommand{\gls@if@measuring}[2]{#2}
\AtBeginDocument{%
 \ifpackageloaded{amsmath}%
 {\let\gls@if@measuring\@gls@if@measuring}%
 {}%
 \let\gls@org@refstepcounter\refstepcounter
 \let\gls@org@label\label
}
\newcommand*\gls@ifnotmeasuring[1]{\glsifmeasuring{#1}}
\newcommand*\glsifmeasuring{\gls@if@measuring}
\newcommand*\gls@local@stepcounter}[1]{%
 \ifcsdef{c#1}%
 {%
 \epreto\gls@measuring@reset{\noexpand\setcounter{#1}{\number\value{#1}}}%
 \expandafter\advance\csname c@#1\endcsname by \@ne
 }%
 {}%
}
}
\newcommand{\gls@start@measuring}{%
 \ifx\glsifmeasuring\@firstoftwo
 \else
 \let\gls@org@target\glstarget
 \let\gls@org@link\@glslink
 \def\gls@measuring@reset{}%
 \fi
 \let\glsifmeasuring\@firstoftwo
 \let\refstepcounter\gls@local@stepcounter
 \let\label\@gobble
 \let\glstarget\@secondoftwo
 \let\@glslink\@secondoftwo
}
\ExplSyntaxOn
\tl_if_exist:NT \l_datatool_measure_hook_tl
{
 \tl_put_right:Nn \l_datatool_measure_hook_tl
 { \gls@start@measuring }
}
\ExplSyntaxOff
\newcommand{\gls@stop@measuring}{%
 \renewcommand*\glsifmeasuring{\gls@if@measuring}%
 \let\refstepcounter\gls@org@refstepcounter
 \let\label\gls@org@label
 \let\glstarget\gls@org@target
 \let\@glslink\gls@org@link
}

```

```

\gls@measuring@reset
\def\gls@measuring@reset{%
}
\newcommand{\glsmeasureheight}[2]{%
\settoheight{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\newcommand{\glsmeasuredepth}[2]{%
\settodepth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\newcommand{\glsmeasurewidth}[2]{%
\settowidth{#1}{\gls@start@measuring#2\gls@stop@measuring}%
}
\def\@gls@patchtabularx#1\hbox#2#3!!{%
\def\TX@trial##1{##1\hbox{\gls@start@measuring#2\gls@stop@measuring}#3}%
}
\newcommand*\glspatchtabularx{%
\ifdef\TX@trial
{%
\expandafter\@gls@patchtabularx\TX@trial{##1}!!%
\let\glspatchtabularx\relax
}%
}%
}
\newcommand*\glsreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glsreset{#1}%
}%
}%
}
\newcommand*\glslocalreset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glslocalreset{#1}%
}%
}%
}
\newcommand*\glsunset}[1]{%
\gls@ifnotmeasuring
{%
\glsdoifexists{#1}%
{%
\@glsunset{#1}%
}%
}%
}
}

```

```

\newcommand*\glslocalunset}[1]{%
 \gls@ifnotmeasuring
 {%
 \glsdoifexists{#1}%
 {%
 \@glslocalunset{#1}%
 }%
 }%
}
\newcommand*\@glslocalunset{\@glslocalunset}
\newcommand*\@glslocalunset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iftrue
}
\newcommand*\@glsunset{\@glsunset}
\newcommand*\@glsunset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagtrue\endcsname
}
\newcommand*\@glslocalreset{\@glslocalreset}
\newcommand*\@glslocalreset}[1]{%
 \expandafter\let\csname ifglo@glsdetoklabel{#1}@flag\endcsname\iffalse
}
\newcommand*\@glsreset{\@glsreset}
\newcommand*\@glsreset}[1]{%
 \expandafter\global\csname glo@glsdetoklabel{#1}@flagfalse\endcsname
}
\newcommand*\glsresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsreset{\@glsentry}%
 }%
}
\newcommand*\glslocalresetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalreset{\@glsentry}%
 }%
}
\newcommand*\glsunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glsunset{\@glsentry}%
 }%
}
\newcommand*\glslocalunsetall}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glsentry}%
 {%
 \glslocalunset{\@glsentry}%
 }%
}
\newcommand*\@newglossaryentry@defcounters{%

```

```

\csdef{glo@\glo@label @currcount}{0}%
\csdef{glo@\glo@label @prevcount}{0}%
}
\newif\ifglsresetcurrcount
\glsresetcurrcountfalse
\newcommand*\glsenableentrycount}{%
\let\@newglossaryentry@defcounters\@newglossaryentry@defcounters
\renewcommand*\gls@defdocnewglossaryentry}{%
\renewcommand*newglossaryentry[2]{%
\PackageError{glossaries}{\string\newglossaryentry\space
may only be used in the preamble when entry counting has
been activated}{If you use \string\glsenableentrycount\space
you must place all entry definitions in the preamble not in
the document environment}%
}%
}%
\newcommand*\glsentrycurrcount}[1]{%
\ifcsundef{glo@\glsdetoklabel{##1}@currcount}%
{0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
\ifcsundef{glo@\glsdetoklabel{##1}@prevcount}%
{0}{\@gls@entry@field{##1}{prevcount}}%
}%
\renewcommand*\@glsunset}[1]{%
\@glsunset{##1}%
\@gls@increment@currcount{##1}%
}%
\renewcommand*\@glslocalunset}[1]{%
\@glslocalunset{##1}%
\@gls@local@increment@currcount{##1}%
}%
\renewcommand*\@glsreset}[1]{%
\@glsreset{##1}%
\ifglsresetcurrcount\csgdef{glo@\glsdetoklabel{##1}@currcount}{0}\fi
}%
\renewcommand*\@glslocalreset}[1]{%
\@glslocalreset{##1}%
\ifglsresetcurrcount\csdef{glo@\glsdetoklabel{##1}@currcount}{0}\fi
}%
\def\@cgl@##1##2[##3]{%
\ifnum\glsentryprevcount{##2}=1\relax
\cglformat{##2}{##3}%
\glsunset{##2}%
\else
\@gls@{##1}{##2}[##3]%
\fi
}%
\def\@cgl@##1##2[##3]{%
\ifnum\glsentryprevcount{##2}=1\relax

```



```

 \cglspformat{##2}{##3}%
 \glset{##2}%
 \else
 \cglsp@{##1}{##2}[##3]%
 \fi
}%
\def\cGls@##1##2[##3]{%
 \ifnum\glsetprevcount{##2}=1\relax
 \cGlsformat{##2}{##3}%
 \glset{##2}%
 \else
 \cGls@{##1}{##2}[##3]%
 \fi
}%
\def\cGlspl@##1##2[##3]{%
 \ifnum\glsetprevcount{##2}=1\relax
 \cGlsplformat{##2}{##3}%
 \glset{##2}%
 \else
 \cGlspl@{##1}{##2}[##3]%
 \fi
}%
\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*{\@gls@entry@count}[2]{%
 \csdef{glo@glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsenableentrycount\relax
}
\@onlypreamble\glsenableentrycount
\newcommand*{\@gls@increment@currcount}[1]{%
 \csxdef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsetentrycurrcount{##1}+1}%
}
\newcommand*{\@gls@local@increment@currcount}[1]{%
 \csedef{glo@glsdetoklabel{##1}@currcount}{%
 \number\numexpr\glsetentrycurrcount{##1}+1}%
}
\newcommand*{\@gls@write@entrycounts}{%
 \immediate\write\@auxout
 {\string\providecommand*{\string\@gls@entry@count}[2]{}}%
 \forallglsentries{\@glsentry}{%
 \ifglsused{\@glsentry}%
 {\immediate\write\@auxout
 {\string\@gls@entry@count{\@glsentry}{\glsetentrycurrcount{\@glsentry}}}}%
 {}%
 }%
}
\newcommand*{\@gls@entry@count}[2]{}
\newrobustcmd*{\cglset}{\@gls@hyp@opt\@cglset}
\newcommand*{\@cglset}[2]{}%

```

```

 \new@ifnextchar[{\@cgl@s@{#1}{#2}}{\@cgl@s@{#1}{#2} []}%
}
\def\@cgl@s@#1#2[#3]{%
 \GlossariesWarning{\string\cgl@s\space is defaulting to
 \string\gl@s\space since you haven't enabled entry counting}%
 \@gl@s@{#1}{#2} [#3]%
}
\newcommand*{\cgl@sformat}[2]{%
 \ifglshaslong{#1}{\gl@sentrylong{#1}}{\gl@sentryfirst{#1}}#2%
}
\newrobustcmd*{\cGls}{\@gl@s@hyp@opt\@cGls}
\glsmfuaddmap{\cgl@s}{\cGls}
\newcommand*{\@cGls}[2] []{%
 \new@ifnextchar[{\@cGls@{#1}{#2}}{\@cGls@{#1}{#2} []}%
}
\def\@cGls@#1#2[#3]{%
 \GlossariesWarning{\string\cGls\space is defaulting to
 \string\Gls\space since you haven't enabled entry counting}%
 \@Gls@{#1}{#2} [#3]%
}
\newcommand*{\cGlsformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\newrobustcmd*{\cgl@spl}{\@gl@s@hyp@opt\@cgl@spl}
\newcommand*{\@cgl@spl}[2] []{%
 \new@ifnextchar[{\@cgl@spl@{#1}{#2}}{\@cgl@spl@{#1}{#2} []}%
}
\def\@cgl@spl@#1#2[#3]{%
 \GlossariesWarning{\string\cgl@spl\space is defaulting to
 \string\gl@spl\space since you haven't enabled entry counting}%
 \@gl@spl@{#1}{#2} [#3]%
}
\newcommand*{\cgl@splformat}[2]{%
 \ifglshaslong{#1}{\gl@sentrylongpl{#1}}{\gl@sentryfirstplural{#1}}#2%
}
\newrobustcmd*{\cGlspl}{\@gl@s@hyp@opt\@cGlspl}
\glsmfuaddmap{\cgl@spl}{\cGlspl}
\newcommand*{\@cGlspl}[2] []{%
 \new@ifnextchar[{\@cGlspl@{#1}{#2}}{\@cGlspl@{#1}{#2} []}%
}
\def\@cGlspl@#1#2[#3]{%
 \GlossariesWarning{\string\cGlspl\space is defaulting to
 \string\Glspl\space since you haven't enabled entry counting}%
 \@Glspl@{#1}{#2} [#3]%
}
\newcommand*{\cGlsplformat}[2]{%
 \ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*{\loadgl@sentries}[2] [\@gl@s@default]{%
 \let\@gl@s@default\gl@sdefaulttype

```

```

\def\glsdefaulttype{#1}\input{#2}%
\let\glsdefaulttype\@gls@default
}
\@onlypreamble{\loadglsentries}
\newcommand*\glsformat[1]{#1}
\newcommand*\glsentryfmt{\glsentryfmt}
\newcommand*\glsentryfirst{\glsentryfirst}
\ifdefempty\glsentryfirst
{
\glsifplural
{
\glsentryfirst
{
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}%
}
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert}%
}%
}
}
\glsifplural
{
\glsentryfirst
{
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}%
}
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}
\glsifplural
{
\glsentryfirst
{
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}%
}
\ifglsused\glslabel
{
\glsentryfirst{\glslabel}\glsinsert
}%
}%
}

```

```

}%
{%
 \ifglused\glslabel
 {%
 \Glsentrytext{\glslabel}\glsinsert
 }%
 {%
 \Glsentryfirst{\glslabel}\glsinsert
 }%
}%
{%
 \ifglused\glslabel
 {%
 \glsuppercase{\glsentrytext{\glslabel}\glsinsert}%
 }%
 {%
 \glsuppercase{\glsentryfirst{\glslabel}\glsinsert}%
 }%
}%
}%
}%
}%
\glscustomtext\glsinsert
}%
}
\newcommand*{\glsnacfmt}{%
 \ifdefempty\glscustomtext
 {%
 \ifglused\glslabel
 {%
 \glsifplural
 {%
 \glscapscase
 {%
 \acronymfont{\glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \acronymfont{\Glsentryshortpl{\glslabel}}\glsinsert
 }%
 {%
 \glsuppercase
 {\acronymfont{\glsentryshortpl{\glslabel}}\glsinsert}%
 }%
 }%
 }%
 }%
 {%
 \glscapscase
 {%
 \acronymfont{\glsentryshort{\glslabel}}\glsinsert
 }%
 {%

```

```

 \acronymfont{\Glsentryshort{\glslabel}}\glsinsert
 }%
 {%
 \glsuppercase
 {\acronymfont{\glsentryshort{\glslabel}}\glsinsert}%
 }%
}%
}%
{%
 \glsifplural
 {%
 \glscapscase
 {%
 \genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genplacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \glsuppercase
 {\genplacrfullformat{\glslabel}{\glsinsert}}%
 }%
 }%
 {%
 \glscapscase
 {%
 \genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \Genacrfullformat{\glslabel}{\glsinsert}%
 }%
 {%
 \glsuppercase
 {\genacrfullformat{\glslabel}{\glsinsert}}%
 }%
 }%
}%
}%
 \glscustomtext
}%
}
\newcommand*{\genacrfullformat}[2]{%
 \glsentrylong{#1}#2\space
 (\protect\firstacronymfont{\glsentryshort{#1}})%
}
\newcommand*{\Genacrfullformat}[2]{%
 \protected@edef\gls@text{\genacrfullformat{#1}{#2}}%
 \expandafter\glssentencecase\expandafter{\gls@text}%
}

```

```

\newcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{#1}#2\space
 (\protect\firstacronymfont{\glsentryshortpl{#1}})%
}
\newcommand*\Genplacrfullformat}[2]{%
 \protected@edef\gls@text{\genplacrfullformat{#1}{#2}}%
 \expandafter\glsentencecase\expandafter{\gls@text}%
}
\define@key{glslink}{counter}{%
 \ifcsundef{c@#1}%
 {%
 \PackageError{glossaries}%
 {There is no counter called ‘#1’}%
 {%
 The counter key should have the name of a valid counter
 as its value%
 }%
 }%
 {%
 \def\@gls@counter{#1}%
 }%
}
\define@key{glslink}{format}{%
 \def\@glsnumberformat{#1}}
\newcommand*\@gls@glslink@hyper@update@hook{}
\define@boolkey{glslink}{hyper}[true]{\@gls@glslink@hyper@update@hook}
\ifdef{\hyperlink}{\KV@glslink@hypertrue}{\KV@glslink@hyperfalse}
\newcommand*\@gls@save@glslocal{%
 \let\if@org@KV@glslink@local\ifKV@glslink@local
}
\newcommand*\@gls@restore@glslocal{%
 \ifKV@glslink@local
 \let\@gls@do@glsunset\glslocalunset
 \else
 \let\@gls@do@glsunset\glsunset
 \fi
 \let\ifKV@glslink@local\if@org@KV@glslink@local
}
\newcommand*\@gls@do@glsunset}[1]{\glsunset{#1}}
\define@boolkey{glslink}{local}[true]{}
\@gls@save@glslocal
\newcommand*\glslinkvar}[3]{#1}
\newcommand*\@gls@hyp@opt}[1]{%
 \let\glslinkvar\@firstofthree
 \let\@gls@hyp@opt@cs#1\relax
 \@ifstar{\s@gls@hyp@opt}%
 {\@ifnextchar+{\@firstoftwo{\p@gls@hyp@opt}}{#1}}%
}
\newcommand*\s@gls@hyp@opt}[1][]{%
 \let\glslinkvar\@secondofthree

```

```

\@gls@hyp@opt@cs[hyper=false,#1]}
\newcommand*{\p@gls@hyp@opt}[1][{}]{%
\let\glslinkvar\@thirdofthree
\@gls@hyp@opt@cs[hyper=true,#1]}
\newrobustcmd*{\glslink}{%
\@gls@hyp@opt\@gls@link
}
\newcommand*{\@gls@link}[3][{}]{%
\glsdoifexistsordo{#2}%
{%
\let\do@gls@link@checkfirsthyper\relax
\@gls@link[#1]{#2}{#3}%
}%
\glstextformat{#3}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Glslink}{%
\@gls@hyp@opt\@Gls@link
}
\newcommand*{\@Gls@link}[3][{}]{%
\@gls@link[#1]{#2}{\glssentencecase{#3}}%
}
\glsmfuaddmap{\glslink}{\Glslink}
\newcommand*{\glspostlinkhook}{}
\newcommand*{\@gls@link@checkfirsthyper}{%
\ifglsused{\glslabel}%
{%
}%
{%
\gls@checkisacronymlist\glstype
\ifglshyperfirst
\if@glsisacronymlist
\ifglsacrfootnote
\KV@glslink@hyperfalse
\fi
\fi
\else
\KV@glslink@hyperfalse
\fi
}%
\glslinkcheckfirsthyperhook
}
\newcommand*{\glslinkcheckfirsthyperhook}{}
\newcommand*{\glslinkpostsetkeys}{}
\newcommand{\glsifhyperon}[2]{\ifKV@glslink@hyper#1\else#2\fi}
\newcommand*{\do@glsdisablehyperinlist}{%
\expandafter\DTLifinlist\expandafter{\glstype}{\@gls@nohyperlist}%
{\KV@glslink@hyperfalse}{}%
}
}

```

```

\newcommand*{\@gls@setdefault@glslink@opts}{%
\def\@gls@link[#1]#2#3{%
 \leavevmode
 \protected@edef\glslabel{\glsdetoklabel{#2}}%
 \def\@gls@link@opts{#1}%
 \let\@gls@link@label\glslabel
 \def\@glsnumberformat{glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
 \protected@edef\glstype{\csname glo@\glslabel @type\endcsname}%
 \let\org@ifKV@glslink@hyper@ifKV@glslink@hyper
 \@gls@save@glslocal
 \@gls@setdefault@glslink@opts
 \do@glsdisablehyperinlist
 \do@gls@link@checkfirsthyper
 \setkeys{glslink}{#1}%
 \glslinkpostsetkeys
 \@gls@saveentrycounter
 \@gls@setsort{\glslabel}%
 \glsencapwrcontent{\@do@wrglossary{#2}}%
 \ifKV@glslink@hyper
 \@glslink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
 \else
 \glsdonohyperlink{\glolinkprefix\glslabel}{\glstextformat{#3}}%
 \fi
 \let@ifKV@glslink@hyper\org@ifKV@glslink@hyper
 \@gls@restore@glslocal
}
\newcommand*{\glsencapwrcontent}[1]{#1}
\newcommand*{\glolinkprefix}{glo:}
\def\glsentrycounter{\glscounter}%
\newcommand*{\@gls@saveentrycounter}{%
\def\@gls@Hcounter{%
\ifthenelse{\equal{\@gls@counter}{equation}}%
{
\ifcsundef{xatlevel@}%
{%
\edef\theglsentrycounter{\expandafter\noexpand
\csname the\@gls@counter\endcsname}%
}%
{%
\ifx\xatlevel@\@empty
\edef\theglsentrycounter{\expandafter\noexpand
\csname the\@gls@counter\endcsname}%
\else
\savecounters@
\advance\c@equation by 1\relax
\edef\theglsentrycounter{\csname the\@gls@counter\endcsname}%
\ifcsundef{theH\@gls@counter}%
{%
\def\@gls@Hcounter{\theglsentrycounter}%
}
}
}
}

```



```

 }%
 {%
 \def\@gls@Hcounter{\csname theH\@gls@counter\endcsname}%
 }%
 \protected@edef\theHglentrycounter{\@gls@Hcounter}%
 \restorecounters@
\fi
}%
}%
{%
 \edef\theglentrycounter{\expandafter\noexpand
 \csname the\@gls@counter\endcsname}%
}%
\ifx\@gls@Hcounter\@empty
 \ifcsundef{theH\@gls@counter}%
 {%
 \def\theHglentrycounter{\theglentrycounter}%
 }%
 {%
 \protected@edef\theHglentrycounter{\expandafter\noexpand
 \csname theH\@gls@counter\endcsname}%
 }%
\fi
}
\def\@set@glo@numformat#1#2#3#4{%
 \expandafter\@glo@check@mkidxrangear#3\@nil
 \protected@edef#1{%
 \@glo@prefix setentrycounter[#4]{#2}%
 \expandafter\string\csname\@glo@suffix\endcsname
 }%
 \@gls@checkmkidxchars#1%
}
\def\@glo@check@mkidxrangear#1#2\@nil{%
\if#1(\relax
 \def\@glo@prefix{(%}
 \if\relax#2\relax
 \def\@glo@suffix{glsnumberformat}%
 \else
 \def\@glo@suffix{#2}%
 \fi
\else
 \if#1)\relax
 \def\@glo@prefix{)%}
 \if\relax#2\relax
 \def\@glo@suffix{glsnumberformat}%
 \else
 \def\@glo@suffix{#2}%
 \fi
\else
 \def\@glo@prefix{)\def\@glo@suffix{#1#2}%

```

```

\fi
\fi}
\newcommand*{\@gls@escbsdq}[1]{%
 \def\@gls@checkedmkidx{}%
 \let\gls@xdystring=#1\relax
 \@onelevel@sanitize\gls@xdystring
 \edef\do@gls@xdycheckbackslash{%
 \noexpand\@gls@xdycheckbackslash\gls@xdystring\noexpand\@nil
 \@backslashchar\@backslashchar\noexpand\null}%
 \do@gls@xdycheckbackslash
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@xdycheckquote\gls@xdystring\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{\gls@xdystring}%
 \ifglsclocations
 \for\@gls@tmp:=\gls@protected@pagefmts\do
 {%
 \edef\@gls@sanitized@tmp{\expandafter\@gobble\string\\ \expandonce\@gls@tmp}%
 \@onelevel@sanitize\@gls@sanitized@tmp
 \edef\gls@dostubst{%
 \noexpand\DTLsubstituteall\noexpand\gls@xdystring
 {\@gls@sanitized@tmp}{\expandonce\@gls@tmp}%
 }%
 \gls@dostubst
 }%
 \fi
 \let#1=\gls@xdystring
}
\newcommand{\@gls@checkmkidxchars}[1]{%
 \ifglxindy
 \@gls@escbsdq{#1}%
 \else
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkquote#1\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkescquote#1\@nil""\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkescactual#1\@nil\?\?\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkactual#1\@nil??\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkbar#1\@nil||\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \def\@gls@checkedmkidx{}%
 \expandafter\@gls@checkescbar#1\@nil\\|\null
 \expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
 \fi
}

```

```

\def\@gls@checkedmkidx{%
\expandafter\@gls@checklevel#1\@nil!!\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{%
\expandafter\@gls@checkesclevel#1\@nil\!\!\null
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\def\@gls@checkedmkidx{%
\edef\@do@gls@checkesc{%
\noexpand\@gls@checkesc\expandonce{#1}\noexpand\@nil
\backslashchar\@backslashchar\noexpand\null
}%
\do@gls@checkesc
\expandafter\@gls@updatechecked\@gls@checkedmkidx{#1}%
\fi
}
\def\@gls@updatechecked#1\@nil#2{\def#2{#1}}
\newtoks\@gls@tmpb
\def\@gls@checkquote#1"#2"#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar\@gls@quotechar\@gls@quotechar}%
\def\@gls@checkquote{\@gls@checkquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkquote{\@gls@checkquote#2""\null}%
\else
\def\@gls@checkquote{\@gls@checkquote#2"#3\null}%
\fi
\fi
\@gls@checkquote
}
\def\@gls@checkescquote#1"#2"#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescquote{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\@\@gls@quotechar

```

```

 \@gls@quotechar\string"\@gls@quotechar}%
\def\@gls@checkescquote{\@gls@checkescquote#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@quotechar}%
\ifx\null#3\null
\def\@gls@checkescquote{\@gls@checkescquote#2"\@gls@quotechar}%
\else
\def\@gls@checkescquote{\@gls@checkescquote#2"#3\null}%
\fi
\fi
\@gls@checkescquote
}
\def\@gls@checkescactual#1\?#2\?#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescactual{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar
\@gls@quotechar\string"\@gls@actualchar}%
\def\@gls@checkescactual{\@gls@checkescactual#3\null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@actualchar}%
\ifx\null#3\null
\def\@gls@checkescactual{\@gls@checkescactual#2\?\?\null}%
\else
\def\@gls@checkescactual{\@gls@checkescactual#2\?#3\null}%
\fi
\fi
\@gls@checkescactual
}
\def\@gls@checkescbar#1|#2|#3\null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@=#1}%
\ifx\null#2\null
\ifx\null#3\null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@gls@checkescbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string"\@gls@encapchar
\@gls@quotechar\string"\@gls@encapchar}%
\def\@gls@checkescbar{\@gls@checkescbar#3\null}%

```

```

\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\\"\@gls@encapchar}%
\ifx\@null#3\@null
\def\@@gls@checkeschar{\@gls@checkeschar#2\|\|\@null}%
\else
\def\@@gls@checkeschar{\@gls@checkeschar#2\|#3\@null}%
\fi
\fi
\@gls@checkeschar
}
\def\@gls@checkescllevel#1\!#2\!#3\@null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\@null#2\@null
\ifx\@null#3\@null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@@gls@checkescllevel{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\\"\@gls@levelchar
\@gls@quotechar\string\\"\@gls@levelchar}%
\def\@@gls@checkescllevel{\@gls@checkescllevel#3\@null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\string\\"\@gls@levelchar}%
\ifx\@null#3\@null
\def\@@gls@checkescllevel{\@gls@checkescllevel#2\!\!\@null}%
\else
\def\@@gls@checkescllevel{\@gls@checkescllevel#2\!#3\@null}%
\fi
\fi
\@gls@checkescllevel
}
\def\@gls@checkbar#1|#2|#3\@null{%
\@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
\toks@={#1}%
\ifx\@null#2\@null
\ifx\@null#3\@null
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
\def\@@gls@checkbar{\relax}%
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
\@gls@quotechar\@gls@encapchar\@gls@quotechar\@gls@encapchar}%
\def\@@gls@checkbar{\@gls@checkbar#3\@null}%
\fi
\else
\edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@

```

```

 \@gls@quotechar\@gls@encapchar}%
 \ifx\null#3\null
 \def\@gls@checkbar{\@gls@checkbar#2||\null}%
 \else
 \def\@gls@checkbar{\@gls@checkbar#2|#3\null}%
 \fi
\fi
\@gls@checkbar
}
\def\@gls@checklevel#1!#2!#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checklevel{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@levelchar\@gls@quotechar\@gls@levelchar}%
 \def\@gls@checklevel{\@gls@checklevel#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@levelchar}%
 \ifx\null#3\null
 \def\@gls@checklevel{\@gls@checklevel#2!!\null}%
 \else
 \def\@gls@checklevel{\@gls@checklevel#2!#3\null}%
 \fi
 \fi
 \@gls@checklevel
}
\def\@gls@checkactual#1?#2?#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkactual{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@actualchar\@gls@quotechar\@gls@actualchar}%
 \def\@gls@checkactual{\@gls@checkactual#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@gls@actualchar}%
 \ifx\null#3\null
 \def\@gls@checkactual{\@gls@checkactual#2??\null}%
 \else

```

```

 \def\@gls@checkactual{\@gls@checkactual#2?#3\null}%
 \fi
 \fi
 \@gls@checkactual
 }
 \bgroup
 \catcode'\|0\relax
 \catcode'\|12\relax
 \gdef\@gls@checkesc#1\#2\#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@checkesc{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@backslashchar\@gls@quotechar\@backslashchar}%
 \def\@gls@checkesc{\@gls@checkesc#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \@gls@quotechar\@backslashchar}%
 \ifx\null#3\null
 \def\@gls@checkesc{\@gls@checkesc#2\| \null}%
 \else
 \def\@gls@checkesc{\@gls@checkesc#2\#3\null}%
 \fi
 \fi
 \@gls@checkesc
 }
 \group
 \def\@gls@xdycheckquote#1"#2"#3\null{%
 \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
 \toks@={#1}%
 \ifx\null#2\null
 \ifx\null#3\null
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
 \def\@gls@xdycheckquote{\relax}%
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \string\| \string\}%
 \def\@gls@xdycheckquote{\@gls@xdycheckquote#3\null}%
 \fi
 \else
 \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
 \string\|}%
 \ifx\null#3\null
 \def\@gls@xdycheckquote{\@gls@xdycheckquote#2" "\null}%
 \else

```

```

 \def\@gls@xdycheckquote{\@gls@xdycheckquote#2"#3\null}%
 \fi
 \fi
 \@gls@xdycheckquote
}
\edef\def@gls@xdycheckbackslash{%
\noexpand\def\noexpand\@gls@xdycheckbackslash##1\@backslashchar
##2\@backslashchar##3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter
{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={##1}%
\noexpand\ifx\noexpand\null##2\noexpand\null
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar\@backslashchar\@backslashchar}%
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\@backslashchar\@backslashchar}%
\noexpand\ifx\noexpand\null##3\noexpand\null
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
\@backslashchar\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@xdycheckbackslash{%
\noexpand\@gls@xdycheckbackslash##2\@backslashchar
##3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@xdycheckbackslash
}%
}
\def@gls@xdycheckbackslash

\newlength\gls@tmplen
\newcommand*\glsdohypertarget}[2]{%
\glsdoshowtarget{#1}%
{%
\glsmeasureheight{\gls@tmplen}{#2}%
\glsdohypertargethook{#1}{#2}%
\raisebox{\gls@tmplen}{\hypertarget{#1}{}}%
#2%
}

```



```

 }%
 }
 \newcommand*\glsdohypertargethook}[2]{}
 \NewDocumentCommand\glslabelhypertarget{mm}{%
 \protected@write\@auxout
 {\glslabelhypertargetdefs}%
 {%
 \string\newlabel
 {\glslabelhypertargetprefix#1}%
 {%
 {\glslabelhypertargetvalue}{\thepage}{#2}{#1}{}}%
 }%
 }%
 }
 \ExplSyntaxOn
 \newcommand\glslabelhypertargetvalue{
 \bool_lazy_and:nnT
 { \tl_if_exist_p:N \glscurrententrylabel }
 { \bool_not_p:n { \tl_if_empty_p:N \glscurrententrylabel } }
 {
 \glsentryname \glscurrententrylabel
 }
 }
 \ExplSyntaxOff
 \newcommand*\glslabelhypertargetprefix{}
 \newcommand*\glslabelhypertargetdefs{%
 \let\glossentryname\glsentryname
 \let\glossentrydesc\glsentrydesc
 \let\glossentrysymbol\glsentrysymbol
 \let\Glossentryname\glsentryname
 \let\Glossentrydesc\glsentrydesc
 \let\Glossentrysymbol\glsentrysymbol
 \let\glossentrynameother\@gls@entry@field
 }
 \newcommand*\glsdohyperlink}[2]{%
 \glsdoshowtarget{#1}%
 {%
 \glsdohyperlinkhook{#1}{#2}%
 \hyperlink{#1}{#2}%
 }%
 }
 \newcommand*\glsdohyperlinkhook}[2]{}
 \newcommand*\glsdonohyperlink}[2]{#2}
 \ifcsundef{hyperlink}%
 {%
 \let\@glslink\glsdonohyperlink
 }%
 {%
 \let\@glslink\glsdohyperlink
 }
}

```

```

\ifcsundef{hypertarget}%
{%
 \let\@glstarget\@secondoftwo
}%
{%
 \let\@glstarget\glsdohypertarget
}
\newcommand{\glsdisablehyper}{%
 \KV@glslink@hyperfalse
 \let\@glslink\glsdonohyperlink
 \let\@glstarget\@secondoftwo
}
\newcommand{\glsenablehyper}{%
 \KV@glslink@hypertrue
 \let\@glslink\glsdohyperlink
 \let\@glstarget\glsdohypertarget
}
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
\newrobustcmd*{\gls}{\@gls@hyp@opt\@gls}
\newcommand*{\@gls}[2][{}]{%
 \new@ifnextchar[{\@gls@#1}{#2}]{\@gls@#1}{#2}[{}]}%
}
\def\@gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glsescapscase\@firstofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 \def\@glo@text{\csname gls@\gls@type @entryfmt\endcsname}%
 \@gls@link[#1]{#2}{\@glo@text}%
 \@gls@do@glsunset{#2}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Gls}{\@gls@hyp@opt\@Gls}
\glsmfuaddmap{\gls}{\Gls}
\newcommand*{\@Gls}[2][{}]{%
 \new@ifnextchar[{\@Gls@#1}{#2}]{\@Gls@#1}{#2}[{}]}%
}
\def\@Gls@#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glsescapscase\@secondofthree
 \let\glscustomtext\@empty
 \def\glsinsert{#3}%
 }%
}

```

```

\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\GLS}{\@gls@hyp@opt\@GLS}
\glsmfublocker{\GLS}
\newcommand*{\@GLS}[2] [] {%
\new@ifnextchar[{\@GLS@{#1}{#2}}{\@GLS@{#1}{#2} []}]%
}
\def\@GLS@#1#2[#3] {%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
\let\glsifplural\@secondoftwo
\let\gls@scaps@case\@thirdofthree
\let\gls@customtext\@empty
\def\glsinsert{#3}%
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\glspl}{\@gls@hyp@opt\@glspl}
\newcommand*{\@glspl}[2] [] {%
\new@ifnextchar[{\@glspl@{#1}{#2}}{\@glspl@{#1}{#2} []}]%
}
\def\@glspl@#1#2[#3] {%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
\let\glsifplural\@firstoftwo
\let\gls@scaps@case\@firstofthree
\let\gls@customtext\@empty
\def\glsinsert{#3}%
\def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
\@gls@link[#1]{#2}{\@glo@text}%
\@gls@do@glsunset{#2}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Glspl}{\@gls@hyp@opt\@Glspl}
\glsmfuaddmap{\glspl}{\Glspl}
\newcommand*{\@Glspl}[2] [] {%
\new@ifnextchar[{\@Glspl@{#1}{#2}}{\@Glspl@{#1}{#2} []}]%
}
\def\@Glspl@#1#2[#3] {%
\glsdoifexists{#2}%

```

```

{%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\gl@ifplural\@firstoftwo
 \let\gl@scapscase\@secondofthree
 \let\gl@customtext\@empty
 \def\gl@insert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gl@link[#1]{#2}{\@glo@text}%
 \@gl@do@gl@unset{#2}%
}%
\gl@postlinkhook
}
\newrobustcmd*{\GLSp1}{\@gl@hyp@opt\@GLSp1}
\gl@mf@blocker{\GLSp1}
\newcommand*{\@GLSp1}[2][{}]{%
 \new@ifnextchar[{\@GLSp1@{#1}{#2}}{\@GLSp1@{#1}{#2}[]}%
}
\def\@GLSp1@#1#2[#3]{%
 \gl@do@ifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\gl@ifplural\@firstoftwo
 \let\gl@scapscase\@thirdofthree
 \let\gl@customtext\@empty
 \def\gl@insert{#3}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gl@link[#1]{#2}{\@glo@text}%
 \@gl@do@gl@unset{#2}%
 }%
 \gl@postlinkhook
}
\newrobustcmd*{\gl@disp}{\@gl@hyp@opt\@gl@disp}
\newcommand*{\@gl@disp}[3][{}]{%
 \gl@do@ifexists{#2}{%
 \let\do@gl@link@checkfirsthyper\@gl@link@checkfirsthyper
 \let\gl@ifplural\@secondoftwo
 \let\gl@scapscase\@firstofthree
 \def\gl@customtext{#3}%
 \def\gl@insert{}%
 \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
 \@gl@link[#1]{#2}{\@glo@text}%
 \@gl@do@gl@unset{#2}%
 }%
 \gl@postlinkhook
}
\newrobustcmd*{\Glsdisp}{\@gl@hyp@opt\@Glsdisp}
\newcommand*{\@Glsdisp}[3][{}]{%
 \@gl@disp[#1]{#2}{\gl@sentencecase{#3}}%
}
\gl@mf@uaddmap{\gl@disp}{\Glsdisp}

```

```

\newcommand*{\@gls@link@nocheckfirsthyper}{}
\newcommand{\@gls@field@link}[3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \@gls@link{#1}{#2}{#3}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\gls@text}{\@gls@hyp@opt\@gls@text}
\newcommand*{\@gls@text}[2] []{%
 \new@ifnextchar[{\@gls@text@{#1}{#2}}{\@gls@text@{#1}{#2} []}]
\def\@gls@text@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentrytext{#2}#3}%
}
\newrobustcmd*{\GLStext}{\@gls@hyp@opt\@GLStext}
\glsmfublocker{\GLStext}
\newcommand*{\@GLStext}[2] []{%
 \new@ifnextchar[{\@GLStext@{#1}{#2}}{\@GLStext@{#1}{#2} []}]
\def\@GLStext@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrytext{#2}#3}}%
}
\newrobustcmd*{\Gls@text}{\@gls@hyp@opt\@Gls@text}
\glsmfuaddmap{\gls@text}{\Gls@text}
\newcommand*{\@Gls@text}[2] []{%
 \new@ifnextchar[{\@Gls@text@{#1}{#2}}{\@Gls@text@{#1}{#2} []}]
\def\@Gls@text@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentrytext{#2}#3}%
}
\newrobustcmd*{\gls@first}{\@gls@hyp@opt\@gls@first}
\newcommand*{\@gls@first}[2] []{%
 \new@ifnextchar[{\@gls@first@{#1}{#2}}{\@gls@first@{#1}{#2} []}]
\def\@gls@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirst{#2}#3}%
}
\newrobustcmd*{\Gls@first}{\@gls@hyp@opt\@Gls@first}
\glsmfuaddmap{\gls@first}{\Gls@first}
\newcommand*{\@Gls@first}[2] []{%
 \new@ifnextchar[{\@Gls@first@{#1}{#2}}{\@Gls@first@{#1}{#2} []}]
\def\@Gls@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirst{#2}#3}%
}
\newrobustcmd*{\GLS@first}{\@gls@hyp@opt\@GLS@first}
\glsmfublocker{\GLS@first}
\newcommand*{\@GLS@first}[2] []{%
 \new@ifnextchar[{\@GLS@first@{#1}{#2}}{\@GLS@first@{#1}{#2} []}]
\def\@GLS@first@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryfirst{#2}#3}}%
}
\newrobustcmd*{\gls@plural}{\@gls@hyp@opt\@gls@plural}

```

```

\newcommand*{\@glsplural}[2] []{%
 \new@ifnextchar[{\@glsplural@{#1}{#2}}{\@glsplural@{#1}{#2} []}]
\def\@glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryplural{#2}#3}%
}
\newrobustcmd*{\Glsplural}{\@gls@hyp@opt\@Glsplural}
\glsmfuaddmap{\glsplural}{\Glsplural}
\newcommand*{\@Glsplural}[2] []{%
 \new@ifnextchar[{\@Glsplural@{#1}{#2}}{\@Glsplural@{#1}{#2} []}]
\def\@Glsplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryplural{#2}#3}%
}
\newrobustcmd*{\GLSplural}{\@gls@hyp@opt\@GLSplural}
\glsmfublocker{\GLSplural}
\newcommand*{\@GLSplural}[2] []{%
 \new@ifnextchar[{\@GLSplural@{#1}{#2}}{\@GLSplural@{#1}{#2} []}]
\def\@GLSplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentryplural{#2}#3}}%
}
\newrobustcmd*{\glsfirstplural}{\@gls@hyp@opt\@glsfirstplural}
\newcommand*{\@glsfirstplural}[2] []{%
 \new@ifnextchar[{\@glsfirstplural@{#1}{#2}}{\@glsfirstplural@{#1}{#2} []}]
\def\@glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryfirstplural{#2}#3}%
}
\newrobustcmd*{\Glsfirstplural}{\@gls@hyp@opt\@Glsfirstplural}
\glsmfuaddmap{\glsfirstplural}{\Glsfirstplural}
\newcommand*{\@Glsfirstplural}[2] []{%
 \new@ifnextchar[{\@Glsfirstplural@{#1}{#2}}{\@Glsfirstplural@{#1}{#2} []}]
\def\@Glsfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryfirstplural{#2}#3}%
}
\newrobustcmd*{\GLSfirstplural}{\@gls@hyp@opt\@GLSfirstplural}
\glsmfublocker{\GLSfirstplural}
\newcommand*{\@GLSfirstplural}[2] []{%
 \new@ifnextchar[{\@GLSfirstplural@{#1}{#2}}{\@GLSfirstplural@{#1}{#2} []}]
\def\@GLSfirstplural@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsupercase{\glsentryfirstplural{#2}#3}}%
}
\newrobustcmd*{\glsname}{\@gls@hyp@opt\@glsname}
\newcommand*{\@glsname}[2] []{%
 \new@ifnextchar[{\@glsname@{#1}{#2}}{\@glsname@{#1}{#2} []}]
\def\@glsname@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryname{#2}#3}%
}
\newrobustcmd*{\Glsname}{\@gls@hyp@opt\@Glsname}
\glsmfuaddmap{\glsname}{\Glsname}
\newcommand*{\@Glsname}[2] []{%
 \new@ifnextchar[{\@Glsname@{#1}{#2}}{\@Glsname@{#1}{#2} []}]
\def\@Glsname@#1#2[#3]{%

```

```

 \@gls@field@link{#1}{#2}{\Glsentryname{#2}#3}%
}
\newrobustcmd*{\GLSname}{\@gls@hyp@opt\@GLSname}
\glsmfublocker{\GLSname}
\newcommand*{\@GLSname}[2] [] {%
 \new@ifnextchar [{\@GLSname@{#1}{#2}}{\@GLSname@{#1}{#2} []}]
}
\def\@GLSname@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryname{#2}#3}}%
}
\newrobustcmd*{\glsdesc}{\@gls@hyp@opt\@glsdesc}
\newcommand*{\@glsdesc}[2] [] {%
 \new@ifnextchar [{\@glsdesc@{#1}{#2}}{\@glsdesc@{#1}{#2} []}]
}
\def\@glsdesc@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrydesc{#2}#3}%
}
\newrobustcmd*{\Glsdesc}{\@gls@hyp@opt\@Glsdesc}
\glsmfuaddmap{\glsdesc}{\Glsdesc}
\newcommand*{\@Glsdesc}[2] [] {%
 \new@ifnextchar [{\@Glsdesc@{#1}{#2}}{\@Glsdesc@{#1}{#2} []}]
}
\def\@Glsdesc@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentrydesc{#2}#3}%
}
\newrobustcmd*{\GLSdesc}{\@gls@hyp@opt\@GLSdesc}
\glsmfublocker{\GLSdesc}
\newcommand*{\@GLSdesc}[2] [] {%
 \new@ifnextchar [{\@GLSdesc@{#1}{#2}}{\@GLSdesc@{#1}{#2} []}]
}
\def\@GLSdesc@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrydesc{#2}#3}}%
}
\newrobustcmd*{\glsdescplural}{\@gls@hyp@opt\@glsdescplural}
\newcommand*{\@glsdescplural}[2] [] {%
 \new@ifnextchar [{\@glsdescplural@{#1}{#2}}{\@glsdescplural@{#1}{#2} []}]
}
\def\@glsdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\Glsdescplural}{\@gls@hyp@opt\@Glsdescplural}
\glsmfuaddmap{\glsdescplural}{\Glsdescplural}
\newcommand*{\@Glsdescplural}[2] [] {%
 \new@ifnextchar [{\@Glsdescplural@{#1}{#2}}{\@Glsdescplural@{#1}{#2} []}]
}
\def\@Glsdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\Glsentrydescplural{#2}#3}%
}
\newrobustcmd*{\GLSdescplural}{\@gls@hyp@opt\@GLSdescplural}
\glsmfublocker{\GLSdescplural}
\newcommand*{\@GLSdescplural}[2] [] {%
 \new@ifnextchar [{\@GLSdescplural@{#1}{#2}}{\@GLSdescplural@{#1}{#2} []}]
}
\def\@GLSdescplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentrydescplural{#2}#3}}%
}
\newrobustcmd*{\glsymbol}{\@gls@hyp@opt\@glsymbol}

```

```

\newcommand*{\@glssymbol}[2] [] {%
 \new@ifnextchar[{\@glssymbol@{#1}{#2}}{\@glssymbol@{#1}{#2} []}]
\def\@glssymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glstentrysymbol{#2}#3}%
}
\newrobustcmd*{\Glsymbol}{\@gls@hyp@opt\@Glsymbol}
\glsmfuaddmap{\glsymbol}{\Glsymbol}
\newcommand*{\@GLssymbol}[2] [] {%
 \new@ifnextchar[{\@GLssymbol@{#1}{#2}}{\@GLssymbol@{#1}{#2} []}]
\def\@GLssymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glstentrysymbol{#2}#3}%
}
\newrobustcmd*{\GLSsymbol}{\@gls@hyp@opt\@GLSsymbol}
\glsmfublocker{\GLSsymbol}
\newcommand*{\@GLSsymbol}[2] [] {%
 \new@ifnextchar[{\@GLSsymbol@{#1}{#2}}{\@GLSsymbol@{#1}{#2} []}]
\def\@GLSsymbol@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glssuppercase{\glstentrysymbol{#2}#3}}%
}
\newrobustcmd*{\glsymbolplural}{\@gls@hyp@opt\@glsymbolplural}
\newcommand*{\@glsymbolplural}[2] [] {%
 \new@ifnextchar[{\@glsymbolplural@{#1}{#2}}{\@glsymbolplural@{#1}{#2} []}]
\def\@glsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glstentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\GLSsymbolplural}{\@gls@hyp@opt\@GLSsymbolplural}
\glsmfuaddmap{\glsymbolplural}{\GLSsymbolplural}
\newcommand*{\@GLSsymbolplural}[2] [] {%
 \new@ifnextchar[{\@GLSsymbolplural@{#1}{#2}}{\@GLSsymbolplural@{#1}{#2} []}]
\def\@GLSsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glstentrysymbolplural{#2}#3}%
}
\newrobustcmd*{\GLSsymbolplural}{\@gls@hyp@opt\@GLSsymbolplural}
\glsmfublocker{\GLSsymbolplural}
\newcommand*{\@GLSsymbolplural}[2] [] {%
 \new@ifnextchar[{\@GLSsymbolplural@{#1}{#2}}{\@GLSsymbolplural@{#1}{#2} []}]
\def\@GLSsymbolplural@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glssuppercase{\glstentrysymbolplural{#2}#3}}%
}
\newrobustcmd*{\glsuseri}{\@gls@hyp@opt\@glsuseri}
\newcommand*{\@glsuseri}[2] [] {%
 \new@ifnextchar[{\@glsuseri@{#1}{#2}}{\@glsuseri@{#1}{#2} []}]
\def\@glsuseri@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glstentryuseri{#2}#3}%
}
\newrobustcmd*{\Glsuseri}{\@gls@hyp@opt\@Glsuseri}
\glsmfuaddmap{\glsuseri}{\Glsuseri}
\newcommand*{\@Glsuseri}[2] [] {%
 \new@ifnextchar[{\@Glsuseri@{#1}{#2}}{\@Glsuseri@{#1}{#2} []}]
\def\@Glsuseri@#1#2[#3] {%

```



```

 \@gls@field@link{#1}{#2}{\Glsentryuseri{#2}#3}%
}
\newrobustcmd*{\GLSuseri}{\@gls@hyp@opt\@GLSuseri}
\glsmfublocker{\GLSuseri}
\newcommand*{\@GLSuseri}[2][\%
 \new@ifnextchar[{\@GLSuseri@{#1}{#2}}{\@GLSuseri@{#1}{#2}[]}]
\def\@GLSuseri@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseri{#2}#3}}%
}
\newrobustcmd*{\glsuserii}{\@gls@hyp@opt\@glsuserii}
\newcommand*{\@glsuserii}[2][\%
 \new@ifnextchar[{\@glsuserii@{#1}{#2}}{\@glsuserii@{#1}{#2}[]}]
\def\@glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuserii{#2}#3}%
}
\newrobustcmd*{\Glsuserii}{\@gls@hyp@opt\@Glsuserii}
\glsmfuaddmap{\glsuserii}{\Glsuserii}
\newcommand*{\@Glsuserii}[2][\%
 \new@ifnextchar[{\@Glsuserii@{#1}{#2}}{\@Glsuserii@{#1}{#2}[]}]
\def\@Glsuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuserii{#2}#3}%
}
\newrobustcmd*{\GLSuserii}{\@gls@hyp@opt\@GLSuserii}
\glsmfublocker{\GLSuserii}
\newcommand*{\@GLSuserii}[2][\%
 \new@ifnextchar[{\@GLSuserii@{#1}{#2}}{\@GLSuserii@{#1}{#2}[]}]
\def\@GLSuserii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuserii{#2}#3}}%
}
\newrobustcmd*{\glsuseriii}{\@gls@hyp@opt\@glsuseriii}
\newcommand*{\@glsuseriii}[2][\%
 \new@ifnextchar[{\@glsuseriii@{#1}{#2}}{\@glsuseriii@{#1}{#2}[]}]
\def\@glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\Glsuseriii}{\@gls@hyp@opt\@Glsuseriii}
\glsmfuaddmap{\glsuseriii}{\Glsuseriii}
\newcommand*{\@Glsuseriii}[2][\%
 \new@ifnextchar[{\@Glsuseriii@{#1}{#2}}{\@Glsuseriii@{#1}{#2}[]}]
\def\@Glsuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\Glsentryuseriii{#2}#3}%
}
\newrobustcmd*{\GLSuseriii}{\@gls@hyp@opt\@GLSuseriii}
\glsmfublocker{\GLSuseriii}
\newcommand*{\@GLSuseriii}[2][\%
 \new@ifnextchar[{\@GLSuseriii@{#1}{#2}}{\@GLSuseriii@{#1}{#2}[]}]
\def\@GLSuseriii@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseriii{#2}#3}}%
}
\newrobustcmd*{\glsuseriv}{\@gls@hyp@opt\@glsuseriv}

```

```

\newcommand*{\@glsuseriv}[2] []{%
 \new@ifnextchar[{\@glsuseriv@{#1}{#2}}{\@glsuseriv@{#1}{#2} []}]
\def\@glsuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuseriv{#2}#3}%
}
\newrobustcmd*{\Glsuseriv}{\@gls@hyp@opt\@Glsuseriv}
\glsmfuaddmap{\glsuseriv}{\Glsuseriv}
\newcommand*{\@Glsuseriv}[2] []{%
 \new@ifnextchar[{\@Glsuseriv@{#1}{#2}}{\@Glsuseriv@{#1}{#2} []}]
\def\@Glsuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuseriv{#2}#3}%
}
\newrobustcmd*{\GLSuseriv}{\@gls@hyp@opt\@GLSuseriv}
\glsmfublocker{\GLSuseriv}
\newcommand*{\@GLSuseriv}[2] []{%
 \new@ifnextchar[{\@GLSuseriv@{#1}{#2}}{\@GLSuseriv@{#1}{#2} []}]
\def\@GLSuseriv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuseriv{#2}#3}}%
}
\newrobustcmd*{\Glsuserv}{\@gls@hyp@opt\@glsuserv}
\newcommand*{\@glsuserv}[2] []{%
 \new@ifnextchar[{\@glsuserv@{#1}{#2}}{\@glsuserv@{#1}{#2} []}]
\def\@glsuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuserv{#2}#3}%
}
\newrobustcmd*{\GLSuserv}{\@gls@hyp@opt\@GLSuserv}
\glsmfublocker{\GLSuserv}
\newcommand*{\@GLSuserv}[2] []{%
 \new@ifnextchar[{\@GLSuserv@{#1}{#2}}{\@GLSuserv@{#1}{#2} []}]
\def\@GLSuserv@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuserv{#2}#3}}%
}
\newrobustcmd*{\glsuservi}{\@gls@hyp@opt\@glsuservi}
\newcommand*{\@glsuservi}[2] []{%
 \new@ifnextchar[{\@glsuservi@{#1}{#2}}{\@glsuservi@{#1}{#2} []}]
\def\@glsuservi@#1#2[#3]{%
 \@gls@field@link{#1}{#2}{\glsentryuservi{#2}#3}%
}
\newrobustcmd*{\Glsuservi}{\@gls@hyp@opt\@Glsuservi}
\glsmfuaddmap{\glsuservi}{\Glsuservi}
\newcommand*{\@Glsuservi}[2] []{%
 \new@ifnextchar[{\@Glsuservi@{#1}{#2}}{\@Glsuservi@{#1}{#2} []}]
\def\@Glsuservi@#1#2[#3]{%

```

```

 \@gls@field@link{#1}{#2}{\Glsentryuservi{#2}#3}%
}
\newrobustcmd*{\GLSuservi}{\@gls@hyp@opt\@GLSuservi}
\glsmfublocker{\GLSuservi}
\newcommand*{\@GLSuservi}[2] [] {%
 \new@ifnextchar [{\@GLSuservi@{#1}{#2}}{\@GLSuservi@{#1}{#2} []}]
\def\@GLSuservi@#1#2[#3] {%
 \@gls@field@link{#1}{#2}{\glsuppercase{\glsentryuservi{#2}#3}}%
}
\newrobustcmd*{\acrshort}{\@gls@hyp@opt\@ns@acrshort}
\newcommand*{\@ns@acrshort}[2] [] {%
 \new@ifnextchar [{\@acrshort{#1}{#2}}{\@acrshort{#1}{#2} []}]
}
\def\@acrshort#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrshort}{\@gls@hyp@opt\@ns@Acrshort}
\glsmfuaddmap{\Acrshort}{\Acrshort}
\newcommand*{\@ns@Acrshort}[2] [] {%
 \new@ifnextchar [{\@Acrshort{#1}{#2}}{\@Acrshort{#1}{#2} []}]
}
\def\@Acrshort#1#2[#3] {%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glsapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \acronymfont{\Glsentryshort{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRshort}{\@gls@hyp@opt\@ns@ACRshort}
\glsmfublocker{\ACRshort}
\newcommand*{\@ns@ACRshort}[2] [] {%

```

```

\new@ifnextchar [{\@ACRshort{#1}{#2}}{\@ACRshort{#1}{#2} []}%
}
\def\@ACRshort#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@secondoftwo
\let\gls caps case\@thirdofthree
\let\glsinsert\@empty
\def\gls custom text{%
\glsupper case{\acronymfont{\glsentryshort{#2}}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@\gls type @entryfmt\endcsname}%
}%
\gls post link hook
}
\newrobustcmd*{\acrshortpl}{\@gls@hyp@opt\@ns@acrshortpl}
\newcommand*{\ns@acrshortpl}[2] []{%
\new@ifnextchar [{\@acrshortpl{#1}{#2}}{\@acrshortpl{#1}{#2} []}%
}
\def\@acrshortpl#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@firstoftwo
\let\gls caps case\@firstofthree
\let\glsinsert\@empty
\def\gls custom text{%
\acronymfont{\glsentryshortpl{#2}}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@\gls type @entryfmt\endcsname}%
}%
\gls post link hook
}
\newrobustcmd*{\Acrshortpl}{\@gls@hyp@opt\@ns@Acrshortpl}
\glsmfuaddmap{\Acrshortpl}{\Acrshortpl}
\newcommand*{\ns@Acrshortpl}[2] []{%
\new@ifnextchar [{\@Acrshortpl{#1}{#2}}{\@Acrshortpl{#1}{#2} []}%
}
\def\@Acrshortpl#1#2[#3]{%
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\def\glslabel{#2}%
\let\glsifplural\@firstoftwo
\let\gls caps case\@secondofthree
\let\glsinsert\@empty
\def\gls custom text{%

```

```

 \acronymfont{\Glsentryshortpl{#2}}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\ACRshortpl}{\@gls@hyp@opt\ns@ACRshortpl}
\glsmfublocker{\ACRshortpl}
\newcommand*{\ns@ACRshortpl}[2] []{%
 \new@ifnextchar[{\@ACRshortpl{#1}{#2}}{\@ACRshortpl{#1}{#2} []}%
}
\def\@ACRshortpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsuppercase{\acronymfont{\Glsentryshortpl{#2}}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlong}{\@gls@hyp@opt\ns@acrlong}
\newcommand*{\ns@acrlong}[2] []{%
 \new@ifnextchar[{\@acrlong{#1}{#2}}{\@acrlong{#1}{#2} []}%
}
\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsentrylong{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlong}{\@gls@hyp@opt\ns@Acrlong}
\glsmfuaddmap{\Acrlong}{\Acrlong}
\newcommand*{\ns@Acrlong}[2] []{%
 \new@ifnextchar[{\@Acrlong{#1}{#2}}{\@Acrlong{#1}{#2} []}%
}

```

```

\def\@acrlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylong{#2}#3%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlong}{\@gl@hyp@opt\ns@ACRlong}
\glsmfublocker{\ACRlong}
\newcommand*{\ns@ACRlong}[2][{}]{%
 \new@ifnextchar[{\@ACRlong{#1}{#2}}{\@ACRlong{#1}{#2}[]}%
}
\def\@ACRlong#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@secondoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsuppercase{\glsentrylong{#2}#3}%
 }%
 \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\acrlongpl}{\@gl@hyp@opt\ns@acrlongpl}
\newcommand*{\ns@acrlongpl}[2][{}]{%
 \new@ifnextchar[{\@acrlongpl{#1}{#2}}{\@acrlongpl{#1}{#2}[]}%
}
\def\@acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@firstofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsentrylongpl{#2}#3%
 }%
 }%
}

```

```

 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\Acrlongpl}{\@gls@hyp@opt\ns@Acrlongpl}
\glsmfuaddmap{\Acrlongpl}{\Acrlongpl}
\newcommand*{\ns@Acrlongpl}[2][]{%
 \new@ifnextchar[{\@Acrlongpl{#1}{#2}}{\@Acrlongpl{#1}{#2} []}%
}
\def\@Acrlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@secondofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \Glsentrylongpl{#2}#3%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newrobustcmd*{\ACRlongpl}{\@gls@hyp@opt\ns@ACRlongpl}
\glsmfublocker{\ACRlongpl}
\newcommand*{\ns@ACRlongpl}[2][]{%
 \new@ifnextchar[{\@ACRlongpl{#1}{#2}}{\@ACRlongpl{#1}{#2} []}%
}
\def\@ACRlongpl#1#2[#3]{%
 \glsdoifexists{#2}%
 {%
 \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
 \def\glslabel{#2}%
 \let\glsifplural\@firstoftwo
 \let\glscapscase\@thirdofthree
 \let\glsinsert\@empty
 \def\glscustomtext{%
 \glsuppercase{\glsentrylongpl{#2}#3}%
 }%
 \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
 }%
 \glspostlinkhook
}
\newcommand*{\@gls@entry@field}[2]{%
 \csuse{glo@glsdetoklabel{#1}@#2}%
}
\newcommand*{\glsletentryfield}[3]{%
 \letcs{#1}{glo@glsdetoklabel{#2}@#3}%
}

```

```

\newrobustcmd*{\@Gls@entry@field}[2]{%
 \glsdoifexistsordo{#1}%
 {%
 \letcs\@glo@text{glo@\glsdetoklabel{#1}@#2}%
 \ifdef\@glo@text
 {%
 \expandafter\glsentencecase\expandafter{\@glo@text}%
 }%
 {%
 ??\PackageError{glossaries}{The field '#2' doesn't exist for glossary
 entry '\glsdetoklabel{#1}'}{Check you have correctly spelt the entry
 label and the field name}%
 }%
 }%
 {%
 ??%
 }%
}
\newcommand{\@Gls@entry@field}[2]{%
 \glstexorpdfstring{\@Gls@entry@field{#1}{#2}}%
 {\MFUsentencecase{\@Gls@entry@field{#1}{#2}}}%
}
\ifdef\texorpdfstring
{\newcommand{\glstexorpdfstring}{\texorpdfstring}}
{\newcommand{\glstexorpdfstring}[2]{#1}}
\newcommand*{\Gls@entryname}[1]{\@Gls@entry@field{#1}{name}}
\newcommand*{\Gls@entryname}[1]{%
 \glstexorpdfstring{\protect\@Gls@entryname{#1}}%
 {\MFUsentencecase{\@Gls@entry@field{#1}{name}}}%
}
\glsmfuexcl{\Gls@entryname}
\newcommand*{\@Gls@entryname}[1]{%
 \@Gls@entry@field{#1}{name}%
}
\newrobustcmd*{\@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \protected@edef\@glo@text{\@Gls@entry@field{#1}{name}}%
 \expandafter\glsentencecase\expandafter{\@glo@text}%
 }%
 {%
 \@Gls@entry@field{#1}{name}%
 }%
}
\newcommand*{\@org@Gls@acentryname}[1]{%
 \ifglshaslong{#1}%
 {%
 \letcs\@glo@text{glo@\glsdetoklabel{#1}@name}%
 \expandafter\@gls@getbody\@glo@text{\@nil
 \expandafter\ifx\@gls@body\glsentrylong\relax

```



```

\expandafter\Glsentrylong\@gls@rest
\else
\expandafter\ifx\@gls@body\glsentryshort\relax
\expandafter\Glsentryshort\@gls@rest
\else
\expandafter\ifx\@gls@body\acronymfont\relax
{%
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else
\expandafter\ifx\@gls@body\glsshortaccessdisplay\relax
{%
\let\glsentryshort\Glsentryshort
\@glo@text
}%
\else
\expandafter\glssentencecase\expandafter{\@glo@text}%
\fi
\fi
\fi
\fi
\fi
}%
{%
\@Gls@entry@field{#1}{name}%
}%
}
\newcommand*\glsentrydesc[1]{\@gls@entry@field{#1}{desc}}
\newcommand*\Glsentrydesc[1]{\@Glsentryfield{#1}{desc}}
\glsmfuexcl{\Glsentrydesc}
\newcommand*\glsentrydescplural[1]{%
\@gls@entry@field{#1}{descplural}}
}
\newcommand*\Glsentrydescplural[1]{%
\@Glsentryfield{#1}{descplural}}
}
\glsmfuexcl{\Glsentrydescplural}
\newcommand*\glsentrytext[1]{\@gls@entry@field{#1}{text}}
\newcommand*\Glsentrytext[1]{%
\@Glsentryfield{#1}{text}}
}
\glsmfuexcl{\Glsentrytext}
\newcommand*\glsentryplural[1]{%
\@gls@entry@field{#1}{plural}}
}
\newcommand*\Glsentryplural[1]{%
\@Glsentryfield{#1}{plural}}
}
\glsmfuexcl{\Glsentryplural}
\newcommand*\glsentrysymbol[1]{%

```

```

 \@gls@entry@field{#1}{symbol}%
}
\newcommand*{\Glsentrysymbol}[1]{%
 \@Glsentryfield{#1}{symbol}%
}
\glsmfuexcl{\Glsentrysymbol}
\newcommand*{\glsentrysymbolplural}[1]{%
 \@gls@entry@field{#1}{symbolplural}%
}
\newcommand*{\Glsentrysymbolplural}[1]{%
 \@Glsentryfield{#1}{symbolplural}%
}
\glsmfuexcl{\Glsentrysymbolplural}
\newcommand*{\glsentryfirst}[1]{%
 \@gls@entry@field{#1}{first}%
}
\newcommand*{\Glsentryfirst}[1]{%
 \@Glsentryfield{#1}{first}%
}
\glsmfuexcl{\Glsentryfirst}
\newcommand*{\glsentryfirstplural}[1]{%
 \@gls@entry@field{#1}{firstpl}%
}
\newcommand*{\Glsentryfirstplural}[1]{%
 \@Glsentryfield{#1}{firstpl}%
}
\glsmfuexcl{\Glsentryfirstplural}
\newcommand{\glscapitalisewords}[1]{%
 \@capitalisewords{#1}%
}
\newcommand*{\glsentrytitlecase}[2]{%
 \glstexorpdfstring
 {\@glsentrytitlecase{#1}{#2}}%
 {\MFUsentencecase{\@gls@entry@field{#1}{#2}}}%
}
\newrobustcmd*{\@glsentrytitlecase}[2]{%
 \glsdoifexists{#1}%
 {%
 \glsfieldfetch{#1}{#2}{\@gls@value}%
 \expandafter\glscapitalisewords\expandafter{\@gls@value}%
 }%
}
\newcommand*{\glsentrytype}[1]{\@gls@entry@field{#1}{type}}
\newcommand*{\glsentrysort}[1]{%
 \@gls@entry@field{#1}{sort}%
}
\newcommand*{\glsentryparent}[1]{%
 \@gls@entry@field{#1}{parent}%
}
\newcommand*{\glsentryuseri}[1]{%

```

```

 \@gls@entry@field{#1}{useri}%
}
\newcommand*{\Glsentryuseri}[1]{%
 \@Glsentryfield{#1}{useri}%
}
\glsmfuexcl{\Glsentryuseri}
\newcommand*{\glsentryuserii}[1]{%
 \@gls@entry@field{#1}{userii}%
}
\newcommand*{\Glsentryuserii}[1]{%
 \@Glsentryfield{#1}{userii}%
}
\glsmfuexcl{\Glsentryuserii}
\newcommand*{\glsentryuseriii}[1]{%
 \@gls@entry@field{#1}{useriii}%
}
\newcommand*{\Glsentryuseriii}[1]{%
 \@Glsentryfield{#1}{useriii}%
}
\glsmfuexcl{\Glsentryuseriii}
\newcommand*{\glsentryuseriv}[1]{%
 \@gls@entry@field{#1}{useriv}%
}
\newcommand*{\Glsentryuseriv}[1]{%
 \@Glsentryfield{#1}{useriv}%
}
\glsmfuexcl{\Glsentryuseriv}
\newcommand*{\glsentryuserv}[1]{%
 \@gls@entry@field{#1}{userv}%
}
\newcommand*{\Glsentryuserv}[1]{%
 \@Glsentryfield{#1}{userv}%
}
\glsmfuexcl{\Glsentryuserv}
\newcommand*{\glsentryuservi}[1]{%
 \@gls@entry@field{#1}{uservi}%
}
\newcommand*{\Glsentryuservi}[1]{%
 \@Glsentryfield{#1}{uservi}%
}
\glsmfuexcl{\Glsentryuservi}
\newcommand*{\glsentryshort}[1]{\@gls@entry@field{#1}{short}}
\newcommand*{\Glsentryshort}[1]{%
 \@Glsentryfield{#1}{short}%
}
\glsmfuexcl{\Glsentryshort}
\newcommand*{\glsentryshortpl}[1]{\@gls@entry@field{#1}{shortpl}}
\newcommand*{\Glsentryshortpl}[1]{%
 \@Glsentryfield{#1}{shortpl}%
}
}

```

```

\glsmfueycl{\Glsentryshortpl}
\newcommand*{\glsentrylong}[1]{\@gls@entry@field{#1}{long}}
\newcommand*{\Glsentrylong}[1]{%
 \@Glsentryfield{#1}{long}%
}
\glsmfueycl{\Glsentrylong}
\newcommand*{\glsentrylongpl}[1]{\@gls@entry@field{#1}{longpl}}
\newcommand*{\Glsentrylongpl}[1]{%
 \@Glsentryfield{#1}{longpl}%
}
\glsmfueycl{\Glsentrylongpl}
\newcommand*{\glsentryfull}[1]{%
 \glsentrylong{#1} (\glsentryshort{#1})%
}
\newcommand*{\Glsentryfull}[1]{%
 \Glsentrylong{#1} (\glsentryshort{#1})%
}
\glsmfueycl{\Glsentryfull}
\newcommand*{\glsentryfullpl}[1]{%
 \acrfullformat{\glsentrylongpl{#1}}{\acronymfont{\glsentryshortpl{#1}}}%
}
\newcommand*{\Glsentryfullpl}[1]{%
 \Glsentrylongpl{#1} (\glsentryshortpl{#1})%
}
\glsmfueycl{\Glsentryfullpl}
\newcommand*{\glsentrynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \@gls@entry@field{#1}{numberlist}%
 }%
}
\@ifpackageloaded{hyperref} {%
 \newcommand*{\glsdisplaynumberlist}[1]{%
 \GlossariesWarning
 {%
 \string\glsdisplaynumberlist\space
 doesn't work with hyperref.^^JUsing
 \string\glsentrynumberlist\space instead%
 }%
 \glsentrynumberlist{#1}%
 }%
}%
\newcommand*{\glsdisplaynumberlist}[1]{%
 \glsdoifexists{#1}%
 {%
 \bgroup
 \protected@edef\@glo@label{\glsdetoklabel{#1}}%
 \let\@org@glsnumberformat\glsnumberformat
 \def\glsnumberformat##1{##1}%
 }%
}

```

```

\protected@edef\the@numberlist{%
 \csname glo@\glo@label @numberlist\endcsname}%
\def\@gls@numlist@sep{%
\def\@gls@numlist@nextsep{%
\def\@gls@numlist@lastsep{%
\def\@gls@thislist{%
\def\@gls@donext@def{%
\renewcommand\do[1]{%
 \protected@edef\@gls@thislist{%
 \@gls@thislist
 \noexpand\@gls@numlist@sep
 ##1%
 }%
 \let\@gls@numlist@sep\@gls@numlist@nextsep
 \def\@gls@numlist@nextsep{\glsnumlistsep}%
 \@gls@donext@def
 \def\@gls@donext@def{%
 \def\@gls@numlist@lastsep{\glsnumlistlastsep}%
 }%
}%
\expandafter \glsnumlistparser \expandafter{\the@numberlist}%
\let\@gls@numlist@sep\@gls@numlist@lastsep
\@gls@thislist
\egroup
}%
}
}
\newcommand*\glsnumlistsep{, }
\newcommand*\glsnumlistlastsep{ \& }
\newcommand*\gls hyperlink}[2][\glsentrytext{\glo@label}]{%
\def\glo@label{#2}%
\@glslink{\glo@linkprefix\glsdetoklabel{#2}}{#1}}
\define@key{glossadd}{counter}{\def\@gls@counter{#1}}
\define@key{glossadd}{format}{\def\@glsnumberformat{#1}}
\define@key{glossadd}{types}{\def\@glo@type{#1}}
\newrobustcmd*\glsadd}[2][{}]{%
 \@gls@adjustmode
 \glsdoifexists{#2}%
 {%
 \def\@glsnumberformat{glsnumberformat}%
 \protected@edef\@gls@counter{\csname glo@\glsdetoklabel{#2}@counter\endcsname}%
 \setkeys{glossadd}{#1}%
 \@gls@saveentrycounter
 \@gls@setsort{#2}%
 \@do@wrglossary{#2}%
 }%
}
}
\glsmfuexcl{\glsadd}
\newcommand*\@gls@adjustmode{}
\AtBeginDocument{\renewcommand*\@gls@adjustmode{\ifvmode\mbox{}\fi}}

```

```

\newrobustcmd*\glsaddall}[1] []{%
 \protected@edef\@glo@type{\@glo@types}%
 \setkeys{glossadd}{#1}%
 \forallglsentries[\@glo@type]{\@glo@entry}{%
 \glsadd[#1]{\@glo@entry}%
 }%
}
\newrobustcmd*\glsaddallunused}[1][\@glo@types]{%
 \forallglsentries[#1]{\@glo@entry}%
 {%
 \ifglsused{\@glo@entry}{\@glsadd[format=glsignore]{\@glo@entry}}%
 }%
}
\newcommand*\glsignore}[1]{}
\edef\glsopenbrace{\expandafter\@gobble\string\{ }
\edef\glsclosebrace{\expandafter\@gobble\string\} }
\edef\glsbackslash{\expandafter\@gobble\string\ }
\edef\glsquote#1{\string"#1\string"}
\edef\glspercentchar{\expandafter\@gobble\string\% }
\edef\glsstildechar{\string~ }
\ifglsxindy
 \newcommand*\@glsfirstletter}{A}
\fi
\newcommand*\GlsSetXdyFirstLetterAfterDigits){%
 \@ifstar\s@GlsSetXdyFirstLetterAfterDigits\@GlsSetXdyFirstLetterAfterDigits}
\ifglsxindy
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*\@glsfirstletter}{#1}}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \renewcommand*\@glsfirstletter}{#1}%
 \@onelevel@sanitize\@glsfirstletter
 }
\else
 \newcommand*\@GlsSetXdyFirstLetterAfterDigits}[1]{%
 \glsnoxywarning\GlsSetXdyFirstLetterAfterDigits}
 \newcommand*\s@GlsSetXdyFirstLetterAfterDigits){%
 \GlsSetXdyFirstLetterAfterDigits
 }
\fi
\ifglsxindy
 \newcommand*\@xdynumbergrouporder}{:before \string"\@glsfirstletter\string"}
\fi
\newcommand*\GlsSetXdyNumberGroupOrder}[1]{%
 \@ifstar\s@GlsSetXdyNumberGroupOrder\@GlsSetXdyNumberGroupOrder
}
\ifglsxindy
 \newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
 \renewcommand*\@xdynumbergrouporder}{#1}%
 }
 \newcommand*\s@GlsSetXdyNumberGroupOrder}[1]{%

```

```

\renewcommand*\@xdynumbergrouporder}{#1}%
\@onelevel@sanitize\@xdynumbergrouporder
}
\else
\newcommand*\@GlsSetXdyNumberGroupOrder}[1]{%
\glsnoxywarning\GlsSetXdyNumberGroupOrder}
\newcommand*\s@GlsSetXdyNumberGroupOrder}{%
\@GlsSetXdyNumberGroupOrder}
\fi
\newcommand*\@glsminrange}{2}
\ifglsxindy
\newcommand*\GlsSetXdyMinRangeLength}[1]{%
\renewcommand*\@glsminrange}{#1}}
\else
\newcommand*\GlsSetXdyMinRangeLength}[1]{%
\glsnoxywarning\GlsSetXdyMinRangeLength}
\fi

\ifglsxindy
\def\writeist{%
\ifundef\glswrite{\newwrite\glswrite}{}%
\@gls@addpredefinedattributes
\openout\glswrite=\istfilename
\write\glswrite{;; xindy style file created by the glossaries
package}%
\write\glswrite{;; for document '\jobname' on
\the\year-\the\month-\the\day}%
\write\glswrite{^^J; required styles^^J}
\@for\@xdystyle:=\@xdyrequiredstyles\do{%
\ifx\@xdystyle\@empty
\else
\protected@write\glswrite}{(require
\string"\@xdystyle.xdy\string")}%
\fi
}%
\write\glswrite{^^J%
; list of allowed attributes (number formats)^^J}%
\write\glswrite{(define-attributes ((\@xdyattributes)))}%
\write\glswrite{^^J; user defined alphabets^^J}%
\write\glswrite{\@xdyuseralphabets}%
\write\glswrite{^^J; location class definitions^^J}%
\@for\@gls@classI:=\@gls@xdy@locationlist\do{%
\protected@write\glswrite}{(define-location-class
\string"\@gls@classI\string"^^J\space\space\space
(
:sep "{ }{"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
:sep "}"
)
^^J\space\space\space

```

```

: min-range-length \@glsminrange^^J%
)
}%
{%
\@for\@gls@classII:=\@gls@xdy@locationlist\do{%
\protected@write\glswrite{}\{(define-location-class
\string"\@gls@classII-\@gls@classI\string"
^^J\space\space\space
(
: sep "{"
\csname @gls@xdy@Lclass@\@gls@classII\endcsname\space
: sep "}\{"
\csname @gls@xdy@Lclass@\@gls@classI\endcsname\space
: sep "}"
)
^^J\space\space\space
: min-range-length \@glsminrange^^J%
)
}%
}%
}%
}%
\write\glswrite{^^J; user defined location classes}%
\write\glswrite{\@xdyuserlocationdefs}%
\write\glswrite{^^J; define cross-reference class^^J}%
\write\glswrite{(define-crossref-class \string"see\string"
:unverified)}%
\write\glswrite{(markup-crossref-list
: class \string"see\string"^^J\space\space\space
: open \string"\string\glsseeformat\string"
: close \string"{}\string")}%
\@xdycrossrefhook
\write\glswrite{^^J; define the order of the location classes}%
\write\glswrite{(define-location-class-order
(\@xdylocationclassorder))}%
\write\glswrite{^^J; define the glossary markup^^J}%
\write\glswrite{(markup-index^^J\space\space\space
: open \string"\string
\glossarysection[\string\glossarytoctitle]{\string
\glossarytitle}\string\glossarypreamble}%
\@for\@this@ctr:=\@xdycounters\do{%
{%
\@for\@this@attr:=\@xdyattributelist\do{%
\protected@write\glswrite{}\{\string\providecommand*
\expandafter\string
\csname glsX\@this@ctr X\@this@attr\endcsname[2]%
{%
\string\setentrycounter
[\expandafter\@gobble\string\#1]{\@this@ctr}%
\expandafter\string

```



```

\csname\@this@attr\endcsname
 {\expandafter\@gobble\string\#2}%
}%
}%
}%
}%
\write\glswrite{%
 \string\begin
 {theglossary}\string\glossaryheader\glstildechar n\string" ^^J\space
 \space\space:close \string" \glpercentchar\glstildechar n\string
 \end{theglossary}\string\glossarypostamble
 \glstildechar n\string" ^^J\space\space\space
 :tree)}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{(markup-indexentry
 :open \string"\string\relax \string\glsresetentrylist
 \glstildechar n\string")}%
\write\glswrite{(markup-locclass-list :open
 \string"\glsopenbrace\string\glossaryentrynumbers
 \glsopenbrace\string\relax\space \string"^^J\space\space\space
 :sep \string", \string"
 :close \string"\glsclosebrace\glsclosebrace\string")}%
\write\glswrite{(markup-locref-list
 :sep \string"\string\delimN\space\string")}%
\write\glswrite{(markup-range
 :sep \string"\string\delimR\space\string")}%
\@onelevel@sanitize\gls@suffixF
\@onelevel@sanitize\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffixF" :length 1 :ignore-end)}%
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{(markup-range
 :close "\gls@suffixFF" :length 2 :ignore-end)}%
\fi
\write\glswrite{^^J; define format to use for locations^^J}%
\write\glswrite{\@xdylocref}%
\write\glswrite{^^J; define letter group list format^^J}%
\write\glswrite{(markup-letter-group-list
 :sep \string"\string\glsgroupskip\glstildechar n\string")}%
\write\glswrite{^^J; letter group headings^^J}%
\write\glswrite{(markup-letter-group
 :open-head \string"\string\glsgroupheading
 \glsopenbrace\string"^^J\space\space\space
 :close-head \string"\glsclosebrace\string")}%

```

```

\write\glswrite{^^J; additional letter groups^^J}%
\write\glswrite{@xdylettergroups}%
\write\glswrite{^^J; additional sort rules^^J}
\write\glswrite{@xdysortrules}%
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
\let\noist\@gls@noist@toolate
}
\else
\edef\@gls@actualchar{\string?}
\edef\@gls@encapchar{\string|}
\edef\@gls@levelchar{\string!}
\edef\@gls@quotechar{\string"}%
\let\GlsSetQuote\gls@nosetquote
\def\writeist{\relax
\ifundef{\glswrite}{\newwrite\glswrite}{}\relax
\openout\glswrite=\istfilename
\write\glswrite{\glspersentchar\space makeindex style file
created by the glossaries package}
\write\glswrite{\glspersentchar\space for document
'\jobname' on \the\year-\the\month-\the\day}
\write\glswrite{actual '\@gls@actualchar'}
\write\glswrite{encap '\@gls@encapchar'}
\write\glswrite{level '\@gls@levelchar'}
\write\glswrite{quote '\@gls@quotechar'}
\write\glswrite{keyword \string"string\glossaryentry\string"}
\write\glswrite{preamble \string"string\glossarysection[\string
\glossarytoctitle]{\string\glossarytitle}\string
\glossarypreamble\string\n\string\begin{theglossary}\string
\glossaryheader\string\n\string"}
\write\glswrite{postamble \string"string%\string\n\string
\end{theglossary}\string\glossarypostamble\string\n
\string"}
\write\glswrite{group_skip \string"string\glsgroupskip\string\n
\string"}
\write\glswrite{item_0 \string"string%\string\n\string"}
\write\glswrite{item_1 \string"string%\string\n\string"}
\write\glswrite{item_2 \string"string%\string\n\string"}
\write\glswrite{item_01 \string"string%\string\n\string"}
\write\glswrite{item_x1
\string"string\relax \string\glsresetentrylist\string\n
\string"}
\write\glswrite{item_12 \string"string%\string\n\string"}
\write\glswrite{item_x2
\string"string\relax \string\glsresetentrylist\string\n
\string"}
\write\glswrite{delim_0 \string"string{\string
\glossaryentrynumbers\string{\string\relax \string"}
\write\glswrite{delim_1 \string"string{\string

```

```

 \glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_2 \string"\string\{\string
 \glossaryentrynumbers\string\{\string\relax \string}
\write\glswrite{delim_t \string"\string\}\string}\string}
\write\glswrite{delim_n \string"\string\delimN \string}
\write\glswrite{delim_r \string"\string\delimR \string}
\write\glswrite{headings_flag 1}
\write\glswrite{heading_prefix
 \string"\string\glsgroupheading\string\{\string"}
\write\glswrite{heading_suffix
 \string"\string}\string\relax
 \string\glsresetentrylist \string}
\write\glswrite{symhead_positive \string"glssymbols\string"}
\write\glswrite{numhead_positive \string"glnumbers\string"}
\write\glswrite{page_compositor \string"glscpositor\string"}
\@gls@escbsdq\gls@suffixF
\@gls@escbsdq\gls@suffixFF
\ifx\gls@suffixF\@empty
\else
 \write\glswrite{suffix_2p \string"\gls@suffixF\string"}
\fi
\ifx\gls@suffixFF\@empty
\else
 \write\glswrite{suffix_3p \string"\gls@suffixFF\string"}
\fi
\@gls@writeisthook
\closeout\glswrite
\let\writeist\relax
\let\noist\@gls@noist@toolate
}
\fi
\newcommand*\GlsSetWriteIstHook}[1]{\renewcommand*\@gls@writeisthook}{#1}}
\@onlypremakeg\GlsSetWriteIstHook
\newcommand*\@gls@writeisthook}{
\ifglxindy
\newcommand*\GlsSetQuote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\newcommand*\gls@nosetquote}[1]{\glsnomakeindexwarning\GlsSetQuote}
\else
\newcommand*\GlsSetQuote}[1]{\edef\@gls@quotechar{\string#1}%
\@ifpackageloaded{tracklang}%
{
\IfTrackedLanguage{german}%
{
\def\@gls@extramakeindexopts{-g}%
}%
}%
}%
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkquote####1#####2#1###3\noexpand\null{

```

```

\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={###1}%
\noexpand\ifx\noexpand\null###2\noexpand\null
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null###3\noexpand\null
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkquote{%
\noexpand\@gls@checkquote###2#1###3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkquote
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\renewcommand{\noexpand\@gls@checkmkidxchars}[1]{%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkquote###1\noexpand\@nil
#1#1\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkesquote###1\noexpand\@nil
\expandonce{\csname#1\endcsname}\expandonce{\csname#1\endcsname}%
\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}
\noexpand\expandafter\noexpand\@gls@checkesactual###1\noexpand\@nil
\noexpand\?\noexpand\?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{###1}%
\noexpand\def\noexpand\@gls@checkedmkidx{%}

```

```

\noexpand\expandafter\noexpand\@gls@checkactual####1\noexpand\@nil
\noexpand?\noexpand?\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkbar####1\noexpand\@nil
\noexpand|\noexpand|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkeschar####1\noexpand\@nil
\noexpand\|\noexpand\|\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checklevel####1\noexpand\@nil
\noexpand!\noexpand!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkescllevel####1\noexpand\@nil
\noexpand\!\noexpand\!\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
\noexpand\def\noexpand\@gls@checkedmkidx{}%
\noexpand\expandafter\noexpand\@gls@checkesc####1\noexpand\@nil
\@backslashchar\@backslashchar\noexpand\null
\noexpand\expandafter\noexpand\@gls@updatechecked
\noexpand\@gls@checkedmkidx{####1}%
}%
}%
\@gls@docheckquotedef
\edef\@gls@docheckquotedef{%
\noexpand\def\noexpand\@gls@checkesquote####1%
\expandonce{\csname#1\endcsname}####2\expandonce{\csname#1\endcsname}%
####3\noexpand\null{%
\noexpand\@gls@tmpb=\noexpand\expandafter{\noexpand\@gls@checkedmkidx}%
\noexpand\toks@={####1}%
\noexpand\ifx\noexpand\null####2\noexpand\null
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@}%
\noexpand\def\noexpand\@gls@checkesquote{\noexpand\relax}%
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
\noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar
\noexpand\@gls@quotechar\noexpand\string\expandonce{%
\csname#1\endcsname}\noexpand\@gls@quotechar}%

```

```

 \noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand@gls@checkescquote####3\noexpand\null}%
\noexpand\fi
\noexpand\else
\noexpand\edef\noexpand\@gls@checkedmkidx{%
 \noexpand\the\noexpand\@gls@tmpb\noexpand\the\noexpand\toks@
 \noexpand\@gls@quotechar\noexpand\string
 \expandonce{\csname#1\endcsname}\noexpand\@gls@quotechar}%
\noexpand\ifx\noexpand\null####3\noexpand\null
\noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####2\expandonce{\csname#1\endcsname}%
 \expandonce{\csname#1\endcsname}\noexpand\null}%
\noexpand\else
\noexpand\def\noexpand\@gls@checkescquote{%
 \noexpand\@gls@checkescquote####2\expandonce{\csname#1\endcsname}%
 ####3\noexpand\null}%
\noexpand\fi
\noexpand\fi
\noexpand\@gls@checkescquote
}%
}%
\@gls@docheckquotedef
}
\newcommand*\@gls@nosetquote}[1]{\PackageError{glossaries}%
 {\string\GlsSetQuote\space not permitted here}%
 {Move \string\GlsSetQuote\space earlier in the preamble, as
 soon as possible after glossaries.sty has been loaded}}
\fi
\newcommand*\@gls@extramakeindexopts}[1]{
\newcommand{\noist}{%
 \@gls@addpredefinedattributes
 \let\writeist\relax
}
\newcommand{\@gls@noist@toolate}{%
 \GlossariesWarning{too late to use \string\noist. The style file
 has already been written}%
}
\newcommand*\@makeglossary}[1]{%
 \ifglossaryexists{#1}%
 {%
 \ifglssavewrites
 \expandafter\newtoks\csname glo@#1@filetok\endcsname
 \else
 \expandafter\newwrite\csname glo@#1@file\endcsname
 \expandafter\@glsopenfile\csname glo@#1@file\endcsname{#1}%
 \fi
 \@gls@renewglossary
 \writeist
 }%
 {%

```

```

\PackageError{glossaries}%
{Glossary type ‘#1’ not defined}%
{New glossaries must be defined before using \string\makeglossaries}%
}%
}
\newcommand*{\@glsopenfile}[2]{%
\immediate\openout#1=\jobname.\csname @glotype@#2@out\endcsname
\PackageInfo{glossaries}{Writing glossary file
\jobname.\csname @glotype@#2@out\endcsname}%
}
\newcommand*{\@closegls}[1]{%
\closeout\csname glo@#1@file\endcsname
}
\ifglxindy
\newcommand*{\@gls@automake}[1]{%
\ifglossaryexists{#1}
{%
\@closegls{#1}%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-M ord/letorder }}%
{\let\@gls@order\@empty}%
\gls@xdy@set@lang{#1}%
\ifdefvoid\gls@codepage
{\let\@gls@codepage\@empty}%
{\def\@gls@codepage{-C \gls@codepage\space}}%
\edef\@gls@dothiswrite{\noexpand\write18{xindy
-I xindy
\@gls@order
-L \@gls@langmod\space
-M \gls@istfilebase\space
\@gls@codepage
-t \jobname.\csuse{@glotype@#1@log}
-o \jobname.\csuse{@glotype@#1@in}
\jobname.\csuse{@glotype@#1@out}}}%
}%
\@gls@dothiswrite
}%
}%
}
\else
\newcommand*{\@gls@automake}[1]{%
\ifglossaryexists{#1}
{%
\@closegls{#1}%
\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-l }}%
{\let\@gls@order\@empty}%
\edef\@gls@dothiswrite{\noexpand\write18{makeindex \@gls@order

```

```

 -s \istfilename\space
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}%
 }%
 \@gls@dothiswrite
}
{
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}
}
\fi
\ifglsxindy
\newcommand*{\@gls@automake@immediate}[1]{%
 \ifglossaryexists{#1}
 {%
 \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
 {%
 \ifdefstring{\glsorder}{letter}%
 {\def\@gls@order{-M ord/letorder }}%
 {\let\@gls@order\@empty}%
 \gls@xdy@set@lang{#1}%
 \ifdefvoid\gls@codepage
 {\let\@gls@codepage\@empty}%
 {\def\@gls@codepage{-C \gls@codepage\space}}%
 \edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{xindy
 -I xindy
 \@gls@order
 -L \@gls@langmod\space
 -M \gls@istfilebase\space
 \@gls@codepage
 -t \jobname.\csuse{@glotype@#1@log}
 -o \jobname.\csuse{@glotype@#1@in}
 \jobname.\csuse{@glotype@#1@out}}%
 }%
 \@gls@dothiswrite
 }%
 {\GlossariesWarning{can't automake '#1': \jobname.\csuse{@glotype@#1@out}
 doesn't exist. Rerun may be required}}%
 }%
 {
 \GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
 }%
}
}
\else
\newcommand*{\@gls@automake@immediate}[1]{%
 \ifglossaryexists{#1}
 {%
 \IfFileExists{\jobname.\csuse{@glotype@#1@out}}%
 {%

```



```

\ifdefstring{\glsorder}{letter}%
{\def\@gls@order{-1 }}%
{\let\@gls@order\@empty}%
\edef\@gls@dothiswrite{\noexpand\immediate\noexpand\write18{makeindex \@gls@order
-s \istfilename\space
-t \jobname.\csuse{@gloftype@#1@log}
-o \jobname.\csuse{@gloftype@#1@in}
\jobname.\csuse{@gloftype@#1@out}}%
}%
\@gls@dothiswrite
}%
{\GlossariesWarning{can't automake '#1': \jobname.\csuse{@gloftype@#1@out}
doesn't exist. Rerun may be required}}%
}%
{%
\GlossariesWarning{Can't make glossary '#1', it doesn't exist}%
}%
}
\fi
\newcommand*{\@warn@nomakeglossaries}{}
\newcommand*{\warn@nomakeglossaries}{\@warn@nomakeglossaries}
\newcommand{\@gls@automake@types}{\@glo@types}
\newcommand{\@gls@@automake@immediate}{}%
\ifnum\gls@automake@nr=2\relax
\protected@edef\gls@tmp{\@gls@automake@types}%
\@for\@gls@type:=\gls@tmp\do{%
\ifdefempty{\@gls@type}{}%
{\@gls@automake@immediate{\@gls@type}}%
}%
\glsautomakefalse
\renewcommand*{\@gls@doautomake}{}%
\else
\ifdefempty\gls@automake@makegloss{}%
{%
\IfFileExists{\jobname.aux}%
{\immediate\write18{\gls@automake@makegloss\space \jobname}}{}%
\glsautomakefalse
\renewcommand*{\@gls@doautomake}{}%
}%
\fi
}
\newcommand*{\makeglossaries}{}%
\ifglxsindy
\def\glsindexingsetting{xindy}%
\else
\def\glsindexingsetting{makeindex}%
\fi
\@domakeglossaries
{%
\@gls@@automake@immediate

```

```

\ifundef{\glswrite}{\newwrite\glswrite}{}%
\protected@write\@auxout{}{\string\providecommand\string\@glsorder[1]{}}
\protected@write\@auxout{}{\string\providecommand\string\@istfilename[1]{}}
\ifundef\@gls@extramakeindexopts
{%
}%
\protected@write\@auxout{}{\string\providecommand
\string\@gls@extramakeindexopts[1]{}}
\protected@write\@auxout{}{\string\@gls@extramakeindexopts
{\@gls@extramakeindexopts}}%
}%
\protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{}{\string\@glsorder{\glsorder}}
\@for\@glo@type:=\@glo@types\do{%
\ifthenelse{equal{\@glo@type}{}}{}{%
\@makeglossary{\@glo@type}}%
}%
\renewcommand*\newglossary[4][]{%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%
\let\@makeglossary\@gobble
\let\makeglossaries\relax
\@disable@onlypremakeg
\let\gls@checkseeallowed\relax
\let\warn@nomakeglossaries\relax
\let\warn@noprintglossary\@makeglossaries@warn@noprintglossary
\ifglssavenumberlist
\edef\@gls@dodolistparser{\noexpand\DeclareListParser
{\noexpand\glsnumlistparser}{\delimN}}%
\@gls@dodolistparser
\fi
\let\makenoidxglossaries\@no@makeglossaries
\renewcommand*\@printgloss@setsort{%
\let\@glo@assign@sortkey\@glo@no@assign@sortkey
}%
\ifglsautomake
\renewcommand*\@gls@doautomake{%
\protected@edef\gls@tmp{\@gls@automake@types}%
\@for\@gls@type:=\gls@tmp\do{%
\ifdefempty{\@gls@type}{}%
{\@gls@automake{\@gls@type}}%
}%
}%
\fi
\@glo@check@sortallowed\makeglossaries
}%
}
\@onlypreamble{\makeglossaries}

```

```

\newcommand\@makeglossaries@warn@noprintglossary{%
 \ifdefstring{\@glo@types}{,}%
 {%
 \GlossariesWarningNoLine{No glossaries have been defined}%
 }%
 {%
 \GlossariesWarningNoLine{No \string\printglossary\space
 or \string\printglossaries\space
 found. ^^J(Remove \string\makeglossaries\space if you
 don't want any glossaries.) ^^JThis document will not
 have a glossary}%
 }%
}%
\AtEndDocument{%
 \warn@nomakeglossaries
 \warn@noprintglossary
}
\newcommand*\makenoidxglossaries{%
 \def\glsindexingsetting{noidx}%
 \@domakeglossaries
 {%
 \renewcommand{\@gls@noref@warn}[1]{%
 \GlossariesWarning{Empty glossary for
 \string\printnoidxglossary[type={##1}].
 Rerun may be required (or you may have forgotten to use
 commands like \string\gls)}%
 }%
 \let\@gls@checkmkidxchars\@gobble
 \glsesclocationsfalse
 \let\@do@wrglossary\gls@noidxglossary
 \let\@gls@getgrouptitle\@gls@noidx@getgrouptitle
 \let\@gls@checkseeallowed\relax
 \renewcommand{\@do@seeglossary}[2]{%
 \protected@edef\@gls@label{\glsdetoklabel{##1}}%
 \protected@write\@auxout{}{%
 \string\@gls@reference
 {\csname glo@\@gls@label @type\endcsname}%
 {\@gls@label}%
 {%
 \string\glsseeformat##2}%
 }%
 }%
 }%
 }%
\AtBeginDocument
{%
 \write\@auxout{\string\providecommand\string\@gls@reference[3]{}%
}%
\def\warn@noprintglossary{%
 \GlossariesWarningNoLine{No \string\printnoidxglossary\space
 or \string\printnoidxglossaries ^^J

```

```

 found. (Remove \string\makenoidxglossaries\space if you
 don't want any glossaries.)^^JThis document will not have a glossary}%
}%
\let\warn@nomakeglossaries\relax
\let\makeglossaries\@no@makeglossaries
\renewcommand*{\@printgloss@setsort}{%
 \let\@glo@assign@sortkey\@glo@assign@sortkey
 \def\@glo@sorttype{\@glo@default@sorttype}%
}%
\renewcommand*\new@glossaryentry[2]{%
 \PackageError{glossaries}{Glossary entries must be
 defined in the preamble^^Jwhen you use
 \string\makenoidxglossaries}%
 {Either move your definitions to the preamble or use
 \string\makeglossaries}%
}%
\renewcommand*{\glsentrynumberlist}[1]{%
 \letcs{\@gls@loclist}{glo@\glsdetoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \glsnoidxloclist{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for '##1'. Either
 a rerun is required or you haven't referenced the entry}%
 }%
 }%
}%
\renewcommand*{\glsdisplaynumberlist}[1]{%
 \letcs{\@gls@loclist}{glo@\glsdetoklabel{##1}@loclist}%
 \ifdef\@gls@loclist
 {%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \def\@gls@noidxloclist@sep{%
 \glsnumlistsep
 }%
 }%
 }%
 \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
 }%
 \def\@gls@noidxloclist@finalsep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
 \@gls@noidxloclist@finalsep
 \@gls@noidxloclist@prev
}%
{%
 ??\glsdoifexists{##1}%

```

```

 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
 }%
}
\renewcommand*{\glsnumberlistloop}[3]{%
 \letcs{\@gls@loclist}{glo\@glsdetoklabel{##1}@loclist}%
 \let\@gls@org@glsnoidxdisplayloc@glsnoidxdisplayloc
 \let\@gls@org@glsseeformat@glsseeformat
 \let@glsnoidxdisplayloc##2\relax
 \let@glsseeformat##3\relax
 \ifdef\@gls@loclist
 {%
 \forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
 }%
 {%
 ??\glsdoifexists{##1}%
 {%
 \GlossariesWarning{Missing location list for ‘##1’. Either
 a rerun is required or you haven’t referenced the entry}%
 }%
 }%
 \let@glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
 \let@glsseeformat\@gls@org@glsseeformat
}
\let\@gls@sanitizesort\@gls@noidx@sanitizesort
\let\@gls@nosanitizesort\@gls@noidx@nosanitizesort
\@gls@noidx@setsanitizesort
\@glo@check@sortallowed\makenoidxglossaries
\let\@gls@savenonumberlist@gls@noidx@nonumberlist
}%
}
\@onlypreamble{\makenoidxglossaries}
\newcommand*{\glsnumberlistloop}[3]{%
 \PackageError{glossaries}{\string\glsnumberlistloop\space
 only works with \string\makenoidxglossaries}{}%
}
\newcommand*{\glsnoidxnumberlistloophandler}[1]{%
 #1%
}
\newcommand*{\@no@makeglossaries}{%
 \PackageError{glossaries}{You can’t use both
 \string\makeglossaries\space and \string\makenoidxglossaries}%
 {Either use one or other (or none) of those commands but not both
 together.}%
}
\newcommand{\@gls@noref@warn}[1]{%
 \GlossariesWarning{\string\makenoidxglossaries\space
 is required to make \string\printnoidxglossary[type={#1}] work}%
}

```

```

}
\newcommand*\gls@noidxglossary{%
 \protected@write\auxout{\gls@wrglossdisablelocationcmds}{%
 \string\gls@reference
 {\csname glo@\gls@label @type\endcsname}%
 {\gls@label}%
 {\string\glsnoidxdisplayloc
 {\glo@counterprefix}%
 {\gls@counter}%
 {\glsnumberformat}%
 {\gls@locref}}%
 }%
 }%
}
\AtEndDocument{%
 \glswritefiles
}
\newcommand*\gls@writefiles{%
 \forallglossaries{\glo@type}{%
 \ifcsundef{glo@\glo@type @filetok}%
 {%
 \def\gls@tmp{}}%
 }%
 {%
 \edef\gls@tmp{\expandafter\the
 \csname glo@\glo@type @filetok\endcsname}%
 }%
 \ifx\gls@tmp\@empty
 \ifx\glo@type\glsdefaulttype
 \GlossariesWarningNoLine{Glossary ‘\glo@type’ has no
 entries.^^JRemember to use package option ‘nomain’ if
you
 don’t want to^^Juse the main glossary}%
 \else
 \GlossariesWarningNoLine{Glossary ‘\glo@type’ has no
 entries}%
 \fi
 \else
 \glsopenfile{\glswrite}{\glo@type}%
 \immediate\write\glswrite{%
 \expandafter\the
 \csname glo@\glo@type @filetok\endcsname}%
 \immediate\closeout\glswrite
 \fi
 }%
 }
}
\newcommand*\gls@glossary[1]{%
 \gls@glossary{#1}%
}
\newcommand*\gls@glossary[2]{%

```

```

\if@gls@debug
 \PackageInfo{glossaries}{wrglossary(#1)(#2)}%
\fi
}
\newcommand{\@gls@renewglossary}{%
 \gdef\@gls@glossary##1{\@bsphack\begingroup\gls@wrglossary{##1}}%
 \let\@gls@renewglossary\@empty
}
\newcommand*\@gls@wrglossary}[2]{%
 \ifglssavewrites
 \protected@edef\@gls@tmp{\the\csname glo@#1@filetok\endcsname#2}%
 \expandafter\global\expandafter\csname glo@#1@filetok\endcsname
 \expandafter{\@gls@tmp~J}%
 \else
 \ifcsdef{glo@#1@file}%
 {%
 \expandafter\protected@write\csname glo@#1@file\endcsname{%
 \gls@disablepagerefexpansion}{#2}%
 }%
 {%
 \ifignoredglossary{#1}{}%
 {%
 \GlossariesWarning{No file defined for glossary ‘#1’}%
 }%
 }%
 \fi
 \endgroup\@esphack
}
\newcommand*\@do@wrglossary}[1]{%
 \gls@ifnotmeasuring{\glswriteentry{#1}{\@do@wrglossary{#1}}}%
}
\newcommand*\@gls@writeentry}[2]{%
 \ifglsindexonlyfirst
 \ifglsused{#1}{#2}%
 \else
 #2%
 \fi
}
}
\newcommand{\gls@protected@pagefmts}{\gls@numberpage,\gls@alphpage,%
\gls@Alphpage,\gls@romanpage,\gls@Romanpage,\gls@arabicpage}
\newcommand*\@gls@disablepagerefexpansion{%
 \gls@wrglossdisablelocationcmds
 \ifglsesclocations
 \@for\@gls@this:=\gls@protected@pagefmts\do
 {%
 \expandafter\let\@gls@this\relax
 }%
 \fi
}
\newcommand{\gls@wrglossdisablelocationcmds}{}

```

```

\newcommand*\gls@alphpage}{\@alph\c@page}
\newcommand*\gls@Alphpage}{\@Alph\c@page}
\newcommand*\gls@numberpage}{\number\c@page}
\newcommand*\gls@arabicpage}{\@arabic\c@page}
\newcommand*\gls@romanpage}{\romannumeral\c@page}
\newcommand*\gls@Romanpage}{\@Roman\c@page}
\newcommand*\glsaddprotectedpagefmt}[1]{%
 \ifglsclocations
 \protected@eappto\gls@protected@pagefmts{\expandonce{\csname gls#1page\endcsname}}%
 \csedef{gls#1page}{\expandonce{\csname#1\endcsname}\noexpand\c@page}%
 \protected@eappto\wrglossarynumberhook{%
 \noexpand\let\expandonce{\csname org@gls#1\endcsname}%
 \expandonce{\csname#1\endcsname}%
 \noexpand\def\expandonce{\csname#1\endcsname}{%
 \noexpand\@wrglossary@pageformat
 \expandonce{\csname gls#1page\endcsname}%
 \expandonce{\csname org@gls#1\endcsname}%
 }%
 }%
 }%
 \else
 \GlsWarnAddProtectedPageFmt
 \fi
}
\newcommand*\GlsWarnAddProtectedPageFmt){%
 \GlossariesWarning{\string\glsaddprotectedpagefmt\space has no
 effect with esclocations=false}%
}
\newcommand*\@wrglossarynumberhook{}
\newcommand*\@wrglossary@pageformat}[3]{%
 \ifx#3\c@page #1\else #2#3\fi
}
\newcommand*\@do@wrglossary}[1]{%
 \ifglsclocations
 \@do@esc@wrglossary{#1}%
 \else
 \@do@noesc@wrglossary{#1}%
 \fi
}
\newcommand*\glswrglossdisableanchorcmds}{\let\glstexorpdfstring\@secondoftwo}
\ifdef\texorpdfstring
 {\appto\glswrglossdisableanchorcmds{\let\texorpdfstring\@secondoftwo}}{}
\ifdef\pdfstringdefPreHook
 {\appto\glswrglossdisableanchorcmds{\pdfstringdefPreHook}}{}
\newcommand*\glswrglosslocationtarget}[1]{#1}
\newcommand*\glswrglosslocationtextfmt}[1]{#1}
\newcommand*\@do@noesc@wrglossary}[1]{%
 \expandafter\def\expandafter\@glslocref\expandafter{\theglentrycounter}%
 \expandafter\def\expandafter\@glsHlocref\expandafter{\theHglentrycounter}%
 \ifx\@glsHlocref\@glslocref
 \def\@glo@counterprefix{}%
 \fi
}

```



```

\else
 \xp@gls@getcounterprefix{\@glslocref}{\@glsHlocref}%
\fi
\protected@edef\@gls@label{\glsdetoklabel{#1}}%
\@do@wrglossary
}
\newif\ifglswrallowprimitivemods
\glswrallowprimitivemodsfalse
\newcommand*\@do@esc@wrglossary}[1]{% please read documented code!
\begingroup
 \let\gls@orgthe\the
 \let\gls@orgnumber\number
 \let\gls@orgarabic\@arabic
 \let\gls@orgromannumeral\romannumeral
 \let\gls@orgalph\@alph
 \let\gls@orgAlph\@Alph
 \let\gls@orgRoman\@Roman
 \ifglswrallowprimitivemods
 \def\gls@the##1{%
 \ifx##1\c@page \gls@numberpage\else\gls@orgthe##1\fi}%
 \def\the{\expandafter\gls@the}%
 \def\gls@number##1{%
 \ifx##1\c@page \gls@numberpage\else\gls@orgnumber##1\fi}%
 \def\number{\expandafter\gls@number}%
 \def\romannumeral##1{%
 \ifx##1\c@page \gls@romanpage \else \gls@orgromannumeral##1\fi}%
 \fi
 \def\@arabic##1{%
 \ifx##1\c@page \gls@arabicpage\else\gls@orgarabic##1\fi}%
 \def\@Roman##1{%
 \ifx##1\c@page \gls@Romanpage\else\gls@orgRoman##1\fi}%
 \def\@alph##1{%
 \ifx##1\c@page \gls@alphpage\else\gls@orgalph##1\fi}%
 \def\@Alph##1{%
 \ifx##1\c@page \gls@Alphpage\else\gls@orgAlph##1\fi}%
 \@wrglossarynumberhook
 \gls@disablepagerefexpansion
 \protected@xdef\@glslocref{\theglsentrycounter}%
\endgroup
\@gls@checkmkidxchars\@glslocref
\expandafter\ifx\theHglentrycounter\theglsentrycounter\relax
 \def\@glo@counterprefix{}%
\else
 \protected@edef\@glsHlocref{\theHglentrycounter}%
 \@gls@checkmkidxchars\@glsHlocref
 \xp@gls@getcounterprefix{\@glslocref}{\@glsHlocref}%
\fi
\protected@edef\@gls@label{\glsdetoklabel{#1}}%
\@do@wrglossary
}

```

```

\newcommand*{\@do@wrglossary}{%
 \ifglxindy
 \expandafter\glo@check@mkidxrangear\@glsnumberformat\@nil
 \def\@glo@range{}%
 \expandafter\if\@glo@prefix(\relax
 \def\@glo@range{:open-range}%
 \else
 \expandafter\if\@glo@prefix)\relax
 \def\@glo@range{:close-range}%
 \fi
 \fi
 \gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
 (indexentry :tkey (\csname glo@\@gls@label @index\endcsname)
 :locref \string{\@glo@counterprefix}{\@glslocref}\string" %
 :attr \string"\@gls@counter\@glo@suffix\string"
 \@glo@range
)
 }%
 \else
 \set@glo@numformat{\@glo@numfmt}{\@gls@counter}{\@glsnumberformat}%
 {\@glo@counterprefix}%
 \gls@glossary{\csname glo@\@gls@label @type\endcsname}{%
 \string@glossaryentry{\csname glo@\@gls@label @index\endcsname
 \@gls@encapchar\@glo@numfmt}{\@glslocref}}%
 \fi
 }
\newcommand*\@xp@gls@getcounterprefix[2]{%
 \bgroup
 \glswrglossdisableanchorcmds
 \protected@edef\@do@gls@getcounterprefix{%
 \noexpand\egroup
 \noexpand\@gls@getcounterprefix{#1}{#2}%
 }%
 \@do@gls@getcounterprefix
}
\newcommand*\@gls@getcounterprefix[2]{%
 \def\@gls@thisloc{#1}\def\@gls@thisHloc{#2}%
 \ifx\@gls@thisloc\@gls@thisHloc
 \def\@glo@counterprefix{}%
 \else
 \def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
 \def\@glo@tmp{##2}%
 \ifx\@glo@tmp\@empty
 \def\@glo@counterprefix{}%
 \else
 \def\@glo@counterprefix{##1}%
 \fi
 }%
 \@gls@get@counterprefix#2.#1\end@getprefix
 \ifx\@glo@counterprefix\@empty

```

```

\GlossariesWarning{Hyper target ‘#2’ can’t be formed by
 prefixing location ‘#1’. You need to modify the
 definition of \string\theH\@gls@counter otherwise you
 will get the warning: “name{\@gls@counter.#1}’ has been
 referenced but does not exist”}%
\fi
\fi
}
\newcommand{\@do@seeglossary}[2]{%
\def\@gls@xref{#2}%
\@onelevel@sanitize\@gls@xref
\@gls@checkmkidxchars\@gls@xref
\ifglsxindy
\gls@glossary{\csname glo@#1@type\endcsname}{%
(indexentry
:key (\csname glo@#1@index\endcsname)
:xref (\string"\@gls@xref\string")
:attr \string"see\string"
)
}%
\else
\gls@glossary{\csname glo@#1@type\endcsname}{%
\string\glossaryentry{\csname glo@#1@index\endcsname
\@gls@encapchar glsseeformat\@gls@xref}{Z}}%
\fi
}
\def\@gls@fixbraces#1#2#3\@nil{%
\ifx#2[\relax
\@gls@fixbraces#1#2#3\@end@fixbraces
\else
\def#1{{#2#3}}%
\fi
}
\def\@gls@fixbraces#1[#2]#3\@end@fixbraces{%
\def#1{[#2]{#3}}%
}
\newrobustcmd*\glssee}[3][\seename]{%
\@do@seeglossary{#2}{[#1]{#3}}}
\newcommand*\@glssee}[3][\seename]{%
\glssee[#1]{#3}{#2}}
\newrobustcmd*\glsseeformat}[3][\seename]{%
\emph{#1} \glsseeelist{#2}}
\newrobustcmd*\glsseeelist}[1]{%
\let\@gls@dolast\relax
\let\@gls@donext\relax
\@for\@gls@thislabel:=#1\do{%
\ifx\@xfor@nextelement\@nnil
\@gls@dolast
\else
\@gls@donext

```

```

\fi
\expandafter\glsseeitem\expandafter{\@gls@thislabel}%
\let\@gls@dolast\glsseelastsep
\let\@gls@donext\glsseesep
}%
}
\newcommand*\glsseelastsep{\space\andname\space}
\newcommand*\glsseesep{, }
\newrobustcmd*\glsseeitem[1]{\gls hyperlink[\glsseeitemformat{#1}]{#1}}
\newcommand*\glsseeitemformat[1]{%
\ifgls hasshort{#1}{\glsentrytext{#1}}{\glsentryname{#1}}%
}
\newcommand*\gls@save@numberlist[1]{%
\ifgls savenumberlist
\toks@{#1}%
\protected@edef\@do@writeaux@info{%
\noexpand\csgdef{glo@glscurrententrylabel @numberlist}{\the\toks@}%
}%
\@onelevel@sanitize\@do@writeaux@info
\protected@write\@auxout{}{\@do@writeaux@info}%
\fi
}
\newcommand*\warn@noprintglossary{}%
\ifcsundef{printglossary}{}%
{%
\@gls@warnonglossdefined
\undef\printglossary
}
\newcommand*\@printgloss@checkexists@noignored}[2]{%
\ifglossaryexists{#1}%
{#2}%
{%
\ifignoredglossary{#1}%
{\GlossariesWarning{Glossary ‘#1’ is an ignored glossary}}%
{\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
}%
}
\newcommand*\@printgloss@checkexists@allowignored}[2]{%
\s@ifglossaryexists{#1}%
{#2}%
{\GlossariesWarning{Glossary ‘#1’ doesn’t exist}}%
}
\let\@printgloss@checkexists\@printgloss@checkexists@noignored
\newcommand*\printglossary[1][type=\glsdefaulttype]{%
\let\@printgloss@checkexists\@printgloss@checkexists@noignored
\@printglossary{#1}{\@print@glossary}%
}
\newcommand*\printglossaries{%
\forallglossaries{\@glo@type}{\printglossary[type=\@glo@type]}%
}

```

```

\newcommand*\printnoidxglossary}[1][type=\glsdefaulttype]{%
 \let\@printgloss@checkexists\@printgloss@checkexists@noignored
 \@printglossary{#1}{\@print@noidx@glossary}%
}
\newcommand*\printnoidxglossaries{%
 \forallglossaries{\@glo@type}{\printnoidxglossary[type=\@glo@type]}%
}
\newcommand*\@printgloss@setsort{}
\newcommand*\@gls@preglossaryhook{}
\newcommand{\@printglossary}[2]{%
 \def\@glo@type{\glsdefaulttype}%
 \def\glossarytitle{\csname @glo@type@\@glo@type @title\endcsname}%
 \def\glossarytoctitle{\glossarytitle}%
 \let\org@glossarytitle\glossarytitle
 \def\@glossarystyle{%
 \ifx\@glossary@default@style\relax
 \GlossariesWarning{No default glossary style provided \MessageBreak
 for the glossary ‘\@glo@type’. \MessageBreak
 Using fallback. \MessageBreak
 To fix this set the style with \MessageBreak
 \string\setglossarystyle\space or use the \MessageBreak
 style key=value option}%
 \fi
 }%
 \def\gls@dotoc@title{\glssettoctitle{\@glo@type}}%
 \let\@org@glossaryentrynumbers\glossaryentrynumbers
 \gls@printglossary@begin
 \@printgloss@setsort
 \setkeys{printgloss}{#1}%
 \@printgloss@checkexists{\@glo@type}%
 {%
 \ifx\glossarytitle\org@glossarytitle
 \else
 \expandafter\let\csname @glo@type@\@glo@type @title\endcsname
 \glossarytitle
 \fi
 \let\currentglossary\@glo@type
 \let\org@glossaryentrynumbers\glossaryentrynumbers
 \let\glsnonextpages\@glsnonextpages
 \let\glsnextpages\@glsnextpages
 \let\nopostdesc\@nopostdesc
 \gls@dotoc@title
 \@glossarystyle
 \let\gls@org@glossaryentryfield\glossentry
 \let\gls@org@glossarysubentryfield\subglossentry
 \renewcommand{\glossentry}[1]{%
 \protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
 \gls@org@glossaryentryfield{##1}%
 }%
 \renewcommand{\subglossentry}[2]{%

```

```

 \protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
 \gls@org@glossarysubentryfield{##1}{##2}%
 }%
 \@gls@preglossaryhook
 #2%
 }%
\gls@printglossary@end
\global\let\glossaryentrynumbers\org@glossaryentrynumbers
\global\let\warn@noprntglossary\relax
}
\newcommand{\gls@printglossary@begin}{\begingroup}
\newcommand{\gls@printglossary@end}{\endgroup}
\expandafter\endgroup\if@endpe\@doendpe\fi
}
\newcommand{\@print@glossary}{%
 \makeatletter
 \input@{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
 \IfFileExists{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
 {}%
 {\null}%
 \ifglxindy
 \gls@xdy@set@lang{\@glo@type}%
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@xdylanguage[2]{}%
 }%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@xdylanguage{\@glo@type}{\@gls@langmod}%
 }%
 }%
 }%
 \do@auxoutstuff
 \edef\@do@auxoutstuff{%
 \noexpand\AtEndDocument{%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\providecommand\string\@gls@codepage[2]{}%
 }%
 \noexpand\immediate\noexpand\write\@auxout{%
 \string\@gls@codepage{\@glo@type}{\@gls@codepage}%
 }%
 }%
 }%
 \do@auxoutstuff
 \fi
\renewcommand*{\@warn@nomakeglossaries}{%
 \GlossariesWarningNoLine{\string\makeglossaries\space
 hasn't been used,^^Jthe glossaries will not be updated}%
}%
}
\newcommand*{\@glo@sortentries}[2]{%
 \glosortentrieswarning
 \def\@glo@sortinglist{}%
 \def\@glo@sortinghandler{#1}%

```

```

\protected@edef\@glo@type{#2}%
\forlistcsloop{\@glo@do@sortentries}{@glsref@#2}%
\csdef{@glsref@#2}{}%
\@for\@this@label:=\@glo@sortinglist\do{%
 \xifinlistcs{\@this@label}{@glsref@#2}%
 {%
 \%
 \listcsxadd{@glsref@#2}{\@this@label}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@label}%
 {%
 \%glo@addchildren{#2}{\@this@label}%
 }%
 }%
}%
}
\newcommand*\@glo@addchildren}[2]{%
 \bgroup
 \letcs{\@glo@childlist}{@glo@sortingchildren@#2}%
 \@for\@this@childlabel:=\@glo@childlist\do
 {%
 \xifinlistcs{\@this@childlabel}{@glsref@#1}%
 }%
 \%
 \listcsxadd{@glsref@#1}{\@this@childlabel}%
 }%
 \ifcsdef{@glo@sortingchildren@\@this@childlabel}%
 {%
 \%glo@addchildren{#1}{\@this@childlabel}%
 }%
 }%
 }%
}
\egroup
}
\newcommand*\@glo@do@sortentries}[1]{%
 \ifglshasparent{#1}%
 {%
 \protected@edef\@glo@parent{\csuse{glo@glsdetoklabel{#1}@parent}}%
 \ifcsundef{@glo@sortingchildren@\@glo@parent}%
 {%
 \csdef{@glo@sortingchildren@\@glo@parent}{}%
 }%
 }%
 }%
 \expandafter\@glo@sortedinsert
 \csname @glo@sortingchildren@\@glo@parent\endcsname{#1}%
 \xifinlistcs{\@glo@parent}{@glsref@\@glo@type}%
 {%
 }%
 }%
}

```

```

 \expandafter\@glo@do@sortentries\expandafter{\@glo@parent}%
 }%
}%
{%
 \@glo@sortedinsert{\@glo@sortinglist}{#1}%
}%
}
\newcommand*\@glo@sortedinsert}[2]{%
 \dtl@insertinto{#2}{#1}{\@glo@sortinghandler}%
}%
\newcommand*\@glo@sorthandler@word}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlwordindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*\@glo@sorthandler@letter}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlletterindexcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*\@glo@sorthandler@case}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
\newcommand*\@glo@sorthandler@nocase}[2]{%
 \letcs\@gls@sort@A{glo@\glsdetoklabel{#1}@sort}%
 \letcs\@gls@sort@B{glo@\glsdetoklabel{#2}@sort}%
 \edef\glo@do@compare{%
 \noexpand\dtlcompare{\noexpand\dtl@sortresult}%
 {\expandonce\@gls@sort@B}%
 {\expandonce\@gls@sort@A}%
 }%
 \glo@do@compare
}
}

```



```

\newcommand*{\@glo@sortmacro@word}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@word}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=word]}{}}%
 }%
}
\newcommand*{\@glo@sortmacro@letter}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@letter}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=letter]}{}}%
 }%
}
\newcommand*{\@glo@sortmacro@standard}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \ifcsdef{\@glo@sorthandler@glorder}%
 {%
 \@glo@sortentries{\cuse{\@glo@sorthandler@glorder}}{#1}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\glorder’}{}}%
 }%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=standard]}{}}%
 }%
}
\newcommand*{\@glo@sortmacro@case}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@case}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=case]}{}}%
 }%
}

```

```

\newcommand*{\@glo@sortmacro@nocase}[1]{%
 \ifdefstring{\@glo@default@sorttype}{standard}%
 {%
 \@glo@sortentries{\@glo@sorthandler@nocase}{#1}%
 }%
 {%
 \PackageError{glossaries}{Conflicting sort options:^^J
 \string\usepackage[sort=\@glo@default@sorttype]{glossaries}^^J
 \string\printnoidxglossary[sort=nocase]}{}}%
 }%
}
\newcommand*{\@glo@sortmacro@def}[1]{%
 \def\@glo@sortinglist{%
 \forlsglentries[#1]{\@gls@thislabel}%
 {%
 \xifinlistcs{\@gls@thislabel}{\@glsref@#1}%
 {%
 \listead{\@glo@sortinglist}{\@gls@thislabel}%
 }%
 {%
 }%
 }%
 }%
 \cslet{\@glsref@#1}{\@glo@sortinglist}%
 }
}
\newcommand*{\@glo@sortmacro@def@do}[1]{%
 \ifinlistcs{#1}{\@glsref@\@glo@type}%
 {}%
 {%
 \listcsadd{\@glsref@\@glo@type}{#1}%
 }%
 \ifcsdef{\@glo@sortingchildren@#1}%
 {%
 \@glo@addchildren{\@glo@type}{#1}%
 }%
 {}%
}
\newcommand*{\@glo@sortmacro@use}[1]{%
}
\newcommand*{\@print@noidx@glossary}{%
 \ifcsdef{\@glsref@\@glo@type}%
 {%
 \ifcsdef{\@glo@sortmacro@\@glo@sorttype}%
 {%
 \csuse{\@glo@sortmacro@\@glo@sorttype}{\@glo@type}%
 }%
 {%
 \PackageError{glossaries}{Unknown sort handler ‘\@glo@sorttype’}{}}%
 }%
 \glossarysection[\glossarytoctitle]{\glossarytitle}%
 \glossary preamble
 \def\@gls@currentlettergroup{}%
}

```

```

\begin{theglossary}%
\glossaryheader
\glsresetentrylist
\forlistcsloop{\@gls@noidx@do}{\@gls@ref@{\@glo@type}}%
\end{theglossary}%
\glossarypostamble
}%
{%
\@gls@noref@warn{\@glo@type}}%
}%
}
\def\glo@grabfirst#1#2\@nil{%
\def\@gls@firsttok{#1}%
\ifdefempty\@gls@firsttok
{%
\def\@glo@thislettergrp{0}%
}%
{%
\@onelevel@sanitize\@gls@firsttok
\expandafter\@glo@grabfirst\@gls@firsttok{}{}\@nil
}%
}
\def\@glo@grabfirst#1#2\@nil{%
\ifdefempty\@glo@thislettergrp
{%
\def\@glo@thislettergrp{glssymbols}%
}%
{%
\count@=\uccode‘#1\relax
\ifnum\count@=0\relax
\def\@glo@thislettergrp{glssymbols}%
\else
\ifdefstring\@glo@sorttype{case}%
{%
\count@=‘#1\relax
}%
{%
}%
\edef\@glo@thislettergrp{\the\count@}%
\fi
}%
}
\newcommand{\@gls@noidx@do}[1]{%
\global\letcs{\@gls@loclist}{glo@\glsdetoklabel{#1}@loclist}%
\ifglshasparent{#1}%
{%
\gls@level=\csuse{glo@\glsdetoklabel{#1}@level}\relax
\ifdefvoid{\@gls@loclist}
{%
\subglossentry{\gls@level}{#1}{}%

```

```

}%
{%
 \subglossentry{\gls@level}{#1}%
 {%
 \glsnoidxprenumberlist{#1}%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
}%
}%
{%
 \letcs{\@gls@sort}{glo@\glsdetoklabel{#1}@sort}%
 \expandafter\glo@grabfirst\@gls@sort{}{}\@nil
 \ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
 {}%
 {%
 \ifdefempty{\@gls@currentlettergroup}{}%
 {%
 \global\let\@glo@thislettergrp\@glo@thislettergrp
 \glsgroupskip
 }%
 \glsgroupheading{\@glo@thislettergrp}%
 }%
 \global\let\@gls@currentlettergroup\@glo@thislettergrp
 \ifdefvoid{\@gls@loclist}
 {%
 \glossentry{#1}{}%
 }%
 {%
 \glossentry{#1}%
 {%
 \glsnoidxprenumberlist{#1}%
 \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
 }%
 }%
}%
}
\newcommand*{\glsnoidxloclist}[1]{%
 \def\@gls@noidxloclist@sep{}%
 \def\@gls@noidxloclist@prev{}%
 \forlistloop{\glsnoidxloclisthandler}{#1}%
}
\newcommand*{\glsnoidxloclisthandler}[1]{%
 \ifdefstring{\@gls@noidxloclist@prev}{#1}%
 {%
 }%
 {%
 \@gls@noidxloclist@sep
 #1%
 \def\@gls@noidxloclist@sep{\delimN}%
 \def\@gls@noidxloclist@prev{#1}%
 }%
}

```

```

 }%
}
\newcommand*\glsnoidxdisplayloclisthandler[1]{%
 \ifdefstring{\@gls@noidxloclist@prev}{#1}%
 {%
 }%
 {%
 \@gls@noidxloclist@sep
 \@gls@noidxloclist@prev
 \def\@gls@noidxloclist@prev{#1}%
 }%
}
\newcommand*\glsnoidxdisplayloc[4]{%
 \setentrycounter[#1]{#2}%
 \csuse{#3}{#4}%
}
\newcommand*\@gls@reference[3]{%
 \glsdoifexistsorwarn{#2}%
 {%
 \ifcsundef{\@glsref@#1}{\csgdef{\@glsref@#1}{}}{%
 \ifinlistcs{#2}{\@glsref@#1}%
 {}%
 \listcsgadd{\@glsref@#1}{#2}%
 \ifcsundef{glo@\glsdetoklabel{#2}@loclist}%
 {\csgdef{glo@\glsdetoklabel{#2}@loclist}{}}%
 {}%
 \listcsgadd{glo@\glsdetoklabel{#2}@loclist}{#3}%
 }%
}
\define@key{printgloss}{type}{\def\@glo@type{#1}}
\define@key{printgloss}{title}{%
 \def\glossarytitle{#1}%
 \let\gls@dotoc@title\relax
}
\define@key{printgloss}{toctitle}{%
 \def\glossarytoctitle{#1}%
 \let\gls@dotoc@title\relax
}
\define@key{printgloss}{style}{%
 \ifcsundef{\@glsstyle@#1}%
 {%
 \PackageError{glossaries}%
 {Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \def\@glossarystyle{\setglossarystyle{#1}}%
 }%
}
\define@choicekey{printgloss}{numberedsection}%
[\@gls@numberedsection@val\@gls@numberedsection@nr]%

```

```

{false,nolabel,autolabel,nameref}[nolabel]%
{%
 \ifcase\gls@numberedsection@nr\relax
 \renewcommand*{\@@glossarysecstar}{*}%
 \renewcommand*{\@@glossaryseclabel}{}%
 \or
 \renewcommand*{\@@glossarysecstar}{}%
 \renewcommand*{\@@glossaryseclabel}{}%
 \or
 \renewcommand*{\@@glossarysecstar}{}%
 \renewcommand*{\@@glossaryseclabel}{\label{\glsautoprefix\@glo@type}}%
 \or
 \renewcommand*{\@@glossarysecstar}{*}%
 \renewcommand*{\@@glossaryseclabel}{%
 \protected@edef\@currentlabelname{\glossarytoctitle}%
 \label{\glsautoprefix\@glo@type}}%
 \fi
}
\define@choicekey{printgloss}{nogroupskip}{true,false}[true]{%
 \csuse{glsnogroupskip#1}%
}
\define@choicekey{printgloss}{nopostdot}{true,false}[true]{%
 \csuse{glsnopostdot#1}%
}
\newcommand*{\GlsEntryCounterLabelPrefix}{glsentry-}
\define@choicekey{printgloss}{entrycounter}{true,false}[true]{%
 \csuse{glsentrycounter#1}%
 \@gls@define@glossaryentrycounter
}
\define@choicekey{printgloss}{subentrycounter}{true,false}[true]{%
 \csuse{glsesubentrycounter#1}%
 \@gls@define@glossarysubentrycounter
}
\define@boolkey{printgloss}[gls]{nonumberlist}[true]{%
\ifglsnonumberlist
 \def\glossaryentrynumbers##1{%
\else
 \def\glossaryentrynumbers##1{##1}%
\fi}
\define@key{printgloss}{sort}{\@glo@assign@sortkey{#1}}
\newcommand*{\@glo@no@assign@sortkey}[1]{%
 \PackageError{glossaries}{‘sort’ key not permitted with
 \string\printglossary}%
 {The ‘sort’ key may only be used with \string\printnoidxglossary}%
}
\newcommand*{\@glo@assign@sortkey}[1]{%
 \def\@glo@sorttype{#1}%
}
\newcommand*{\@glsnonextpages}{%
 \gdef\glossaryentrynumbers##1{%

```

```

 \glsresetentrylist
 }%
}
\newcommand*{\@glsnextpages}{%
 \gdef\glossaryentrynumbers##1{%
 ##1\glsresetentrylist}}
\newcommand*{\glsresetentrylist}{%
 \global\let\glossaryentrynumbers\org@glossaryentrynumbers}
\newcommand*{\glsnonextpages}{}
\newcommand*{\glsnextpages}{}
\@gls@define@glossaryentrycounter
\@gls@define@glossarysubentrycounter
\newcommand*{\glsresetsubentrycounter}{%
 \ifglssubentrycounter
 \setcounter{glossarysubentry}{0}%
 \fi
}
\newcommand*{\glsresetentrycounter}{%
 \ifglentrycounter
 \setcounter{glossaryentry}{0}%
 \fi
}
\newcommand*{\glsstepentry}[1]{%
 \ifglentrycounter
 \refstepcounter{glossaryentry}%
 \label{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \fi
}
\newcommand*{\glsstepsubentry}[1]{%
 \ifglssubentrycounter
 \protected@edef\currentglssubentry{\glsdetoklabel{#1}}%
 \refstepcounter{glossarysubentry}%
 \label{\GlsEntryCounterLabelPrefix\currentglssubentry}%
 \fi
}
\newcommand*{\glsrefentry}[1]{%
 \ifglentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \ifglssubentrycounter
 \ref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
 \else
 \gls{#1}%
 \fi
 \fi
}
\newcommand*{\glsentrycounterlabel}{%
 \ifglentrycounter
 \theglossaryentry.\space
 \fi
}

```

```

}
\newcommand*{\glssubentrycounterlabel}{%
\ifglssubentrycounter
\theglossarysubentry)\space
\fi
}
\newcommand*{\glentryitem}[1]{%
\ifglentrycounter
\glstepentry{#1}\glentrycounterlabel
\else
\glresetsubentrycounter
\fi
}
\newcommand*{\glssubentryitem}[1]{%
\ifglssubentrycounter
\glstepsentry{#1}\glssubentrycounterlabel
\fi
}
\ifcsundef{theglossary}%
{%
\newenvironment{theglossary}{}{}%
}%
{%
\@gls@warnontheglossdefined
\renewenvironment{theglossary}{}{}%
}
\newcommand*{\glossaryheader}{}
\newcommand*{\glstarget}[2]{\@glstarget{\glolinkprefix#1}{#2}}
\newcommand{\glossentry}[2]{\glossentryname{#1} #2}
\newcommand*{\glossentryname}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\expandafter\glsnamefont\expandafter{\glo@name}%
}%
}
\newcommand*{\Glossentryname}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\glsnamefont{\Glsentryname{#1}}%
}%
}
\glsmfuaddmap{\glossentryname}{\Glossentryname}
\newcommand*{\glossentrydesc}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\glentrydesc{#1}%
}%
}
\newcommand*{\Glossentrydesc}[1]{%

```



```

\glsdoifexistsorwarn{#1}%
{%
 \Glsentrydesc{#1}%
}%
}
\glsmfuaddmap{\glossentrydesc}{\Glossentrydesc}
\newcommand*{\glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \glsentrysymbol{#1}%
 }%
}
\newcommand*{\Glossentrysymbol}[1]{%
 \glsdoifexistsorwarn{#1}%
 {%
 \Glsentrysymbol{#1}%
 }%
}
\glsmfuaddmap{\glossentrysymbol}{\Glossentrysymbol}
\newcommand{\subglossentry}[3]{\glossentryname{#2} #3}
\newcommand*{\glsgroupskip}{}
\newcommand*{\glsgroupheading}[1]{}
\newrobustcmd*{\glsgetgrouptitle}[1]{%
 \@gls@getgrouptitle{#1}{\@gls@grptitle}%
 \@gls@grptitle
}
\ExplSyntaxOn
\newcommand*{\@gls@getgrouptitle}[2]{%
 \def#2{#1}%
 \regex_match:nnT { ~\A(.|glsnumbers|glssymbols)\Z } { #1 }
 { \ifcsundef{#1groupname}{ }\letcs#2{#1groupname} }
}
\ExplSyntaxOff
\newcommand*{\@gls@noidx@getgrouptitle}[2]{%
 \DTLifint{#1}%
 {\edef#2{\char#1\relax}}%
 {%
 \ifcsundef{#1groupname}{\def#2{#1}}{\letcs#2{#1groupname}}%
 }%
}
\ExplSyntaxOn
\newcommand*{\glsgetgrouplabel}[1]{%
 \str_if_eq:eeTF {#1} { \glssymbolsgroupname }
 { \glssymbols }
 {
 \str_if_eq:eeTF {#1} { \glsnumbersgroupname }
 { \glsnumbers }
 { #1 }
 }
}
}

```

```

\ExplSyntaxOff
\newcommand*{\setentrycounter}[2][{}]{%
 \def\@glo@counterprefix{#1}%
 \ifx\@glo@counterprefix\@empty
 \def\@glo@counterprefix{.}%
 \else
 \def\@glo@counterprefix{.#1.}%
 \fi
 \def\glsentrycounter{#2}%
}
\newcommand*{\setglossarystyle}[1]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ undefined}{}%
 }%
 {%
 \csname @glsstyle@#1\endcsname
 }%
 \ifx\@glossary@default@style\relax
 \protected@edef\@glossary@default@style{#1}%
 \fi
}
\newcommand{\newglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \expandafter\def\csname @glsstyle@#1\endcsname{#2}%
 }%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ is already defined}{}%
 }%
}
\newcommand{\renewglossarystyle}[2]{%
 \ifcsundef{@glsstyle@#1}%
 {%
 \PackageError{glossaries}{Glossary style ‘#1’ isn’t already defined}{}%
 }%
 {%
 \csdef{@glsstyle@#1}{#2}%
 }%
}
\newcommand*{\glsnamefont}[1]{#1}
\ifcsundef{hyperlink}%
{%
 \def\glsnumber#1{#1}%
}%
{%
 \def\glsnumber#1{\@xp@glshypernumber{#1}}
}
\newrobustcmd{\@xp@glshypernumber}[1]{%
 \@glsnumber#1\nohyperpage{ }\@nil
}

```

```

}
\def\@gls@hypernumber#1\nohyperpage#2#3\@nil{%
 \ifx\#1\%
 \else
 \gls@delimR#1\delimR\delimR\%
 \fi
 \ifx\#2\%
 \else
 #2%
 \fi
 \ifx\#3\%
 \else
 \@gls@hypernumber#3\@nil
 \fi
 \fi
}
\def\gls@delimR#1\delimR #2\delimR #3\{%
 \ifx\#2\%
 \gls@delimN{#1}%
 \else
 \@gls@numberlink{#1}\delimR\@gls@numberlink{#2}%
 \fi
}
\def\gls@delimN#1{\gls@delimN#1\delimN \delimN\}
\def\gls@delimN#1\delimN #2\delimN#3\{%
 \ifx\#3\%
 \@gls@numberlink{#1}%
 \else
 \@gls@numberlink{#1}\delimN\@gls@numberlink{#2}%
 \fi
}
\def\@gls@numberlink#1{%
 \begingroup
 \toks@={}%
 \@gls@removespaces#1 \@nil
 \endgroup
}
\def\@gls@removespaces#1 #2\@nil{%
 \toks@=\expandafter{\the\toks@#1}%
 \ifx\#2\%
 \edef\@gls@x{\the\toks@}%
 \ifx\@gls@x\empty
 \else
 \bgroup
 \glswrglossdisableanchorcmds
 \protected@edef\@gls@tmp{\gls@entrycounter\@glo@counterprefix
 \glswrglosslocationtarget{\@gls@x}}%
 \@onelevel@sanitize\@gls@tmp
 \edef\@gls@x{\noexpand\egroup
 \noexpand\hyperlink{\@gls@tmp}%
 {\noexpand\glswrglosslocationtextfmt{\the\toks@}}%
 \fi
 \fi
 \fi
 \fi
}

```

```

 }%
 \@gls@x
 \fi
\else
 \@gls@ReturnAfterFi{%
 \@gls@removespaces#2\@nil
 }%
\fi
}
\long\def\@gls@ReturnAfterFi#1\fi{\fi#1}
\newcommand*\hyperrm[1]{\textrm{\glsnumber{#1}}}
\newcommand*\hypersf[1]{\textsf{\glsnumber{#1}}}
\newcommand*\hypertt[1]{\texttt{\glsnumber{#1}}}
\newcommand*\hyperbf[1]{\textbf{\glsnumber{#1}}}
\newcommand*\hypermd[1]{\textmd{\glsnumber{#1}}}
\newcommand*\hyperit[1]{\textit{\glsnumber{#1}}}
\newcommand*\hypersl[1]{\textsl{\glsnumber{#1}}}
\newcommand*\hyperup[1]{\textup{\glsnumber{#1}}}
\newcommand*\hypersc[1]{\textsc{\glsnumber{#1}}}
\newcommand*\hyperemph[1]{\emph{\glsnumber{#1}}}
\newcommand\oldacronym[4][\gls@label]{%
 \def\gls@label{#2}%
 \newacronym[4]{#1}{#2}{#3}%
 \ifcsundef{xspace}%
 {%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}}{\noexpand\gls{#1}}}%
 }%
}%
\ifcsundef{xspace}%
{%
 \expandafter\edef\csname#1\endcsname{%
 \noexpand\@ifstar{\noexpand\Gls{#1}\noexpand\xspace}{%
 \noexpand\gls{#1}\noexpand\xspace}%
 }%
}%
}
\newcommand\newacronym[4][]{%
 \gls@newacronym{#1}{#2}{#3}{#4}%
}
\newcommand\gls@newacronym[4]{%
 \renewcommand\gls@newacronym[4]{%
 \PackageError{glossaries}{incompatible acronym style:
 rollback may be required}%
 {something has gone wrong with \string\newacronym. Try
 \string\usepackage{glossaries}[=v4.49]}%
 }%
 \setacronymstyle{long-short}%
 \newacronym[4]{#1}{#2}{#3}{#4}%
}
\newcommand*\acrpluralsuffix{\glsacrpluralsuffix}

```

```

\newrobustcmd*{\glstextup}[1]{\ifdef\textulc{\textulc{#1}}{\textup{#1}}}
\newcommand*{\glsshortkey}{short}
\newcommand*{\glsshortpluralkey}{shortplural}
\newcommand*{\glslongkey}{long}
\newcommand*{\glslongpluralkey}{longplural}
\newcommand{\acrlinkfullformat}[5]{%
 \acrfullformat{#1{#3}{#4}[#5]}{#2{#3}{#4}[]}%
}
\newcommand{\acrfullformat}[2]{#1\glsspace{#2}}
\newrobustcmd{\glsspace}{\space}
\newcommand*{\acrfullfmt}[3]{%
 \acrlinkfullformat{\@acrshort}{#1}{#2}{#3}%
}
\newcommand*{\Acrfullfmt}[3]{%
 \acrlinkfullformat{\@Acrshort}{#1}{#2}{#3}%
}
\newcommand*{\ACRfullfmt}[3]{%
 \acrlinkfullformat{\@ACRshort}{#1}{#2}{#3}%
}
\newcommand*{\acrfullplfmt}[3]{%
 \acrlinkfullformat{\@acrshortpl}{#1}{#2}{#3}%
}
\newcommand*{\Acrfullplfmt}[3]{%
 \acrlinkfullformat{\@Acrshortpl}{#1}{#2}{#3}%
}
\newcommand*{\ACRfullplfmt}[3]{%
 \acrlinkfullformat{\@ACRshortpl}{#1}{#2}{#3}%
}
\newrobustcmd*{\acrfull}{\@gls@hyp@opt\ns@acrfull}
\newcommand*\ns@acrfull[2][]{%
 \new@ifnextchar[{\@acrfull{#1}{#2}}%
 {\@acrfull{#1}{#2}[]}%
}
\def\@acrfull#1#2[#3]{%
 \acrfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\Acrfull}{\@gls@hyp@opt\ns@Acrfull}
\glsmfuaddmap{\acrfull}{\Acrfull}
\newcommand*\ns@Acrfull[2][]{%
 \new@ifnextchar[{\@Acrfull{#1}{#2}}%
 {\@Acrfull{#1}{#2}[]}%
}
\def\@Acrfull#1#2[#3]{%
 \Acrfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*{\ACRfull}{\@gls@hyp@opt\ns@ACRfull}
\newcommand*\ns@ACRfull[2][]{%
 \new@ifnextchar[{\@ACRfull{#1}{#2}}%
 {\@ACRfull{#1}{#2}[]}%
}

```

```

\def\@ACRfull#1#2[#3]{%
 \ACRfullfmt{#1}{#2}{#3}%
}
\newrobustcmd*\acrfullpl{\@gls@hyp@opt\ns@acrfullpl}
\newcommand*\ns@acrfullpl[2][]{%
 \new@ifnextchar[{\@acrfullpl{#1}{#2}}%
 {\@acrfullpl{#1}{#2}[]}%
}
\def\@acrfullpl#1#2[#3]{%
 \acrfullplfmt{#1}{#2}{#3}%
}
\newrobustcmd*\Acrfullpl{\@gls@hyp@opt\ns@Acrfullpl}
\glsmfuaddmap{\acrfullpl}{\Acrfullpl}
\newcommand*\ns@Acrfullpl[2][]{%
 \new@ifnextchar[{\@Acrfullpl{#1}{#2}}%
 {\@Acrfullpl{#1}{#2}[]}%
}
\def\@Acrfullpl#1#2[#3]{%
 \Acrfullplfmt{#1}{#2}{#3}%
}
\newrobustcmd*\ACRfullpl{\@gls@hyp@opt\ns@ACRfullpl}
\newcommand*\ns@ACRfullpl[2][]{%
 \new@ifnextchar[{\@ACRfullpl{#1}{#2}}%
 {\@ACRfullpl{#1}{#2}[]}%
}
\def\@ACRfullpl#1#2[#3]{%
 \ACRfullplfmt{#1}{#2}{#3}%
}
\newcommand{\acronymfont}[1]{#1}
\newcommand{\firstacronymfont}[1]{\acronymfont{#1}}
\newcommand*\{acnameformat}[2]{\acronymfont{#1}}
\newtoks\glskeylisttok
\newtoks\glslabeltok
\newtoks\glsshorttok
\newtoks\glslongtok
\newcommand*\{newacronymhook}{-}
\newcommand*\{SetGenericNewAcronym}{-%
 \let\@Gls@entryname\@Gls@acentryname
 \renewcommand{\newacronym}[4][]{%
 \ifdefempty{\@glsacronymlists}%
 {%
 \def\@glo@type{\acronymtype}%
 \setkeys{glossentry}{##1}%
 \DeclareAcronymList{\@glo@type}%
 }%
 }%
 \glskeylisttok{##1}%
 \glslabeltok{##2}%
 \glsshorttok{##3}%
 \glslongtok{##4}%
}

```

```

\newacronymhook
\protected@edef\do@newglossaryentry{%
 \noexpand\newglossaryentry{\the\glslabeltok}%
 {%
 type=\acronymtype,%
 name={\expandonce{\acronymentry{##2}}},%
 sort={\acronymsort{\the\glsshorttok}{\the\glslongtok}},%
 text={\the\glsshorttok},%
 short={\the\glsshorttok},%
 shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
 long={\the\glslongtok},%
 longplural={\the\glslongtok\noexpand\glspluralsuffix},%
 \GenericAcronymFields,%
 \the\glskeylisttok
 }%
}%
\do@newglossaryentry
}%
\renewcommand*\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\genacrfullformat{##2}{##3}}}%
\renewcommand*\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}}%
\renewcommand*\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsuppercase{\genacrfullformat{##2}{##3}}}%
\renewcommand*\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}}%
\renewcommand*\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsuppercase{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%
\renewcommand*\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
\newcommand*\GenericAcronymFields{description={\the\glslongtok}}
\newcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
\newcommand*\acronymsort}[2]{##1}
\newcommand*\setacronymstyle}[1]{%
 \ifcsundef{@glsacr@dispstyle@##1}
 {%
 \PackageError{glossaries}{Undefined acronym style ‘##1’}{%
 }%
 }%
 \ifdefempty{@glsacronymlists}%
 {%
 \DeclareAcronymList{\acronymtype}%
 }%
}

```

```

 {}%
 \SetGenericNewAcronym
 \GlsUseAcrStyleDefs{#1}%
 \for\@gls@type:=\@glsacronymlists\do{%
 \defglsentryfmt[\@gls@type]{\GlsUseAcrEntryDispStyle{#1}}%
 }%
}%
}
\newcommand*\newacronymstyle}[3]{%
 \ifcsdef{@glsacr@dispstyle@#1}%
 {%
 \PackageError{glossaries}{Acronym style ‘#1’ already exists}{}%
 }%
 {%
 \csdef{@glsacr@dispstyle@#1}{#2}%
 \csdef{@glsacr@styledefs@#1}{#3}%
 }%
}
\newcommand*\renewacronymstyle}[3]{%
 \ifcsdef{@glsacr@dispstyle@#1}%
 {%
 \csdef{@glsacr@dispstyle@#1}{#2}%
 \csdef{@glsacr@styledefs@#1}{#3}%
 }%
 {%
 \PackageError{glossaries}{Acronym style ‘#1’ doesn’t exist}{}%
 }%
}
\newcommand*\GlsUseAcrEntryDispStyle}[1]{\csuse{@glsacr@dispstyle@#1}}
\newcommand*\GlsUseAcrStyleDefs}[1]{\csuse{@glsacr@styledefs@#1}}
\newacronymstyle{long-short}%
{%
 \ifglshaslong{\glslabel}{\glsngenacfmt}{\glsngenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \renewcommand*\genacrfullformat}[2]{%
 \glsentrylong{##1}##2\space
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\Genacrfullformat}[2]{%
 \Glsentrylong{##1}##2\space
 (\protect\firstacronymfont{\glsentryshort{##1}})%
 }%
 \renewcommand*\genplacrfullformat}[2]{%
 \glsentrylongpl{##1}##2\space
 (\protect\firstacronymfont{\glsentryshortpl{##1}})%
 }%
 \renewcommand*\Genplacrfullformat}[2]{%
 \Glsentrylongpl{##1}##2\space

```



```

(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\newacronymstyle{long-sp-short}%
{%
\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\Genacrfullformat}[2]{%
\Glsentrylong{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshort{##1}})%
}%
\renewcommand*{\genplacrfullformat}[2]{%
\glsentrylongpl{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\Genplacrfullformat}[2]{%
\Glsentrylongpl{##1}##2\glsacspace{##1}%
(\protect\firstacronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*{\acronymsort}[2]{##1}%
\renewcommand*{\acronymfont}[1]{##1}%
\renewcommand*{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*{\acrpluralsuffix}{\glspluralsuffix}%
}
\newcommand*{\glsacspace}[1]{%
\settowidth{\dimen@}{(\firstacronymfont{\glsentryshort{##1}})}%
\ifdim\dimen@<3em~\else\space\fi
}
\newacronymstyle{short-long}%
{%
\ifglshaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
\renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
\renewcommand*{\genacrfullformat}[2]{%
\protect\firstacronymfont{\glsentryshort{##1}}##2\space
\glsentrylong{##1}%
}%
}

```

```

\renewcommand*\Genacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshort{##1}}##2\space
 (\glsentrylong{##1})%
}%
\renewcommand*\genplacrfullformat}[2]{%
 \protect\firstacronymfont{\glsentryshortpl{##1}}##2\space
 (\glsentrylongpl{##1})%
}%
\renewcommand*\Genplacrfullformat}[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2\space
 (\glsentrylongpl{##1})%
}%
\renewcommand*\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort}[2]{##1}%
\renewcommand*\acronymfont}[1]{##1}%
\renewcommand*\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand*\acrpluralsuffix}{\glspluralsuffix}%
}
\newacronymstyle{long-sc-short}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{long-sm-short}%
{%
 \GlsUseAcrEntryDispStyle{long-short}%
}%
{%
 \GlsUseAcrStyleDefs{long-short}%
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{sc-short-long}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%
 \GlsUseAcrStyleDefs{short-long}%
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*\acrpluralsuffix}{\glsupacrpluralsuffix}%
}
\newacronymstyle{sm-short-long}%
{%
 \GlsUseAcrEntryDispStyle{short-long}%
}%
{%

```

```

\GlsUseAcrStyleDefs{short-long}%
\renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
\renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}
\newacronymstyle{long-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-short}%
}%
{%
\GlsUseAcrStyleDefs{long-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{long-sp-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-sp-short}%
}%
{%
\GlsUseAcrStyleDefs{long-sp-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\glsacspace{##1}(\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{long-sc-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-sc-short}%
}%
{%
\GlsUseAcrStyleDefs{long-sc-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{long-sm-short-desc}%
{%
\GlsUseAcrEntryDispStyle{long-sm-short}%
}%
{%
\GlsUseAcrStyleDefs{long-sm-short}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%
\glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
}
\newacronymstyle{short-long-desc}%
{%

```

```

\GlsUseAcrEntryDispStyle{short-long}%
}%
{%-
\GlsUseAcrStyleDefs{short-long}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%-
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{sc-short-long-desc}%
{%-
\GlsUseAcrEntryDispStyle{sc-short-long}%
}%
{%-
\GlsUseAcrStyleDefs{sc-short-long}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%-
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{sm-short-long-desc}%
{%-
\GlsUseAcrEntryDispStyle{sm-short-long}%
}%
{%-
\GlsUseAcrStyleDefs{sm-short-long}%
\renewcommand*{\GenericAcronymFields}{}%
\renewcommand*{\acronymsort}[2]{##2}%
\renewcommand*{\acronymentry}[1]{%-
\glentrylong{##1}\space (\acronymfont{\glentryshort{##1}})}%
}
\newacronymstyle{dua}%
{%-
\ifdefempty\glscustomtext
{%-
\ifglshaslong{\glslabel}%
{%-
\glcifplural
{%-
\glscapscase
{%-
\glentrylongpl{\glslabel}\glinsert
}%
{%-
\Glsentrylongpl{\glslabel}\glinsert
}%
{%-
\glsuppercase
{\glentrylongpl{\glslabel}\glinsert}%
}%
}
}
}
}
}
}
}
}

```

```

}%
{%
 \glscapscase
 {%
 \glentrylong{\glslabel}\glsinsert
 }%
 {%
 \Glsentrylong{\glslabel}\glsinsert
 }%
 {%
 \glssupercase
 {\glentrylong{\glslabel}\glsinsert}%
 }%
}%
}%
{%
 \glsgenentryfmt
}%
}%
{\glscustomtext\glsinsert}%
}%
{%
 \renewcommand*{\GenericAcronymFields}{description={\the\glslongtok}}%
 \renewcommand*{\acrfullfmt}[3]{%
 \glslink[##1]{##2}{\glentrylong{##2}##3\space
 (\acronymfont{\glentryshort{##2}})}%
 }%
 \renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylong{##2}##3\space
 (\acronymfont{\glentryshort{##2}})}%
 }%
 \renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glssupercase{\glentrylong{##2}##3\space
 (\acronymfont{\glentryshort{##2}})}%
 }%
 }%
 \renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\glentrylongpl{##2}##3\space
 (\acronymfont{\glentryshortpl{##2}})}%
 }%
 \renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\Glsentrylongpl{##2}##3\space
 (\acronymfont{\glentryshortpl{##2}})}%
 }%
 \renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glssupercase{\glentrylongpl{##2}##3\space
 (\acronymfont{\glentryshortpl{##2}})}%
 }%
 }%
 \renewcommand*{\glsentryfull}[1]{%
 \glentrylong{##1}\space(\acronymfont{\glentryshort{##1}})%
 }%
 \renewcommand*{\Glsentryfull}[1]{%
 \Glsentrylong{##1}\space(\acronymfont{\glentryshort{##1}})%
 }%
 \renewcommand*{\glsentryfullpl}[1]{%

```

```

 \glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\Glsentryfullpl[1]{%
 \Glsentrylongpl{##1}\space(\acronymfont{\glsentryshortpl{##1}})%
}%
\renewcommand*\acronymentry[1]{\acronymfont{\glsentryshort{##1}}}%
\renewcommand*\acronymsort[2]{##1}%
\renewcommand*\acronymfont[1]{##1}%
\renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
}
\newacronymstyle{dua-desc}%
{%
 \GlsUseAcrEntryDispStyle{dua}%
}%
{%
 \GlsUseAcrStyleDefs{dua}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymentry[1]{\glsentrylong{##1}}%
 \renewcommand*\acronymsort[2]{##2}%
}%
\newacronymstyle{footnote}%
{%
 \ifglsashaslong{\glslabel}{\glsgenacfmt}{\glsgenentryfmt}%
}%
{%
 \renewcommand*\GenericAcronymFields{description={\the\glslongtok}}%
 \glshyperfirstfalse
 \renewcommand*\genacrfullformat[2]{%
 \protect\firstacronymfont{\glsentryshort{##1}}##2%
 \protect\footnote{\glsentrylong{##1}}%
 }%
 \renewcommand*\Genacrfullformat[2]{%
 \firstacronymfont{\Glsentryshort{##1}}##2%
 \protect\footnote{\glsentrylong{##1}}%
 }%
 \renewcommand*\genplacrfullformat[2]{%
 \protect\firstacronymfont{\glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
 }%
 \renewcommand*\Genplacrfullformat[2]{%
 \protect\firstacronymfont{\Glsentryshortpl{##1}}##2%
 \protect\footnote{\glsentrylongpl{##1}}%
 }%
 \renewcommand*\acronymentry[1]{\acronymfont{\glsentryshort{##1}}}%
 \renewcommand*\acronymsort[2]{##1}%
 \renewcommand*\acronymfont[1]{##1}%
 \renewcommand*\acrpluralsuffix{\glsacrpluralsuffix}%
 \renewcommand*\acrfullfmt[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}%
 }%

```

```

\renewcommand*{\Acrfullfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}}%
\renewcommand*{\ACRfullfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsupercase{\acronymfont{\glsentryshort{##2}}##3\space
 (\glsentrylong{##2})}}}%
\renewcommand*{\acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}}%
\renewcommand*{\Acrfullplfmt}[3]{%
 \glslink[##1]{##2}{\acronymfont{\Glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}}%
\renewcommand*{\ACRfullplfmt}[3]{%
 \glslink[##1]{##2}{%
 \glsupercase{\acronymfont{\glsentryshortpl{##2}}##3\space
 (\glsentrylongpl{##2})}}}%
\renewcommand*{\glsentryfull}[1]{%
 \acronymfont{\glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\Glsentryfull}[1]{%
 \acronymfont{\Glsentryshort{##1}}\space(\glsentrylong{##1})}%
\renewcommand*{\glsentryfullpl}[1]{%
 \acronymfont{\glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
\renewcommand*{\Glsentryfullpl}[1]{%
 \acronymfont{\Glsentryshortpl{##1}}\space(\glsentrylongpl{##1})}%
}
\newacronymstyle{footnote-sc}%
{%
 \GlsUseAcrEntryDisplayStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsc{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsupacrpluralsuffix}%
}%
\newacronymstyle{footnote-sm}%
{%
 \GlsUseAcrEntryDisplayStyle{footnote}%
}%
{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand{\acronymentry}[1]{\acronymfont{\glsentryshort{##1}}}
 \renewcommand{\acronymfont}[1]{\textsmaller{##1}}%
 \renewcommand*{\acrpluralsuffix}{\glsacrpluralsuffix}%
}%
\newacronymstyle{footnote-desc}%
{%
 \GlsUseAcrEntryDisplayStyle{footnote}%
}%

```

```

{%
 \GlsUseAcrStyleDefs{footnote}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
 }
\newacronymstyle{footnote-sc-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sc}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sc}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
 }
\newacronymstyle{footnote-sm-desc}%
{%
 \GlsUseAcrEntryDispStyle{footnote-sm}%
}%
{%
 \GlsUseAcrStyleDefs{footnote-sm}%
 \renewcommand*\GenericAcronymFields{}%
 \renewcommand*\acronymsort}[2]{##2}%
 \renewcommand*\acronymentry}[1]{%
 \glsentrylong{##1}\space (\acronymfont{\glsentryshort{##1}})}%
 }
}
\newcommand*\DefineAcronymSynonyms{%
 \let\acs\acrshort
 \let\Acs\Acrshort
 \let\acsp\acrshortpl
 \let\Acsp\Acrshortpl
 \let\acl\acrlong
 \let\aclp\acrlongpl
 \let\Acl\Acrlong
 \let\Aclp\Acrlongpl
 \let\acf\acrfull
 \let\acfp\acrfullpl
 \let\Acf\Acrfull
 \let\Acfp\Acrfullpl
 \let\ac\gls
 \let\Ac\Gls
 \let\acp\glspl
 \let\Acp\Glspl
}
\ifglsacrshortcuts
 \DefineAcronymSynonyms
\fi

```



```

\newcommand*\SetDefaultAcronymDisplayStyle}[1]{%
 \defglsentryfmt[#1]{\glsentryfmt}%
}
\newcommand*\acrfootnote}[3]{\acrlinkfootnote{#1}{#2}{#3}}
\newcommand*\acrlinkfootnote}[3]{%
 \footnote{\glslink[#1]{#2}{#3}}%
}
\newcommand*\acrnohreffootnote}[3]{%
 \footnote{#3}%
}
\newrobustcmd*\glsdoparenifnotempty}[2]{%
 \protected@edef\gls@tmp{#1}%
 \ifdefempty\gls@tmp
 {}%
 {%
 \ifx\gls@tmp\@gls@default@value
 \else
 \space (#2{#1})%
 \fi
 }%
}
\newcommand*\@gls@deprecated@acr@warning}[3]{%
 \GlossariesWarning{Acronym style option #1 deprecated.
 Use \string\setacronymstyle{#2} with just glossaries.sty or
 use \string\setabbreviationstyle[acronym]{#3} with
 glossaries-extra.sty}%
}
\RequirePackage{glossary-hypernav}
\@gls@loadlist
\@gls@loadlong
\@gls@loadsuper
\@gls@loadtree
\ifx\@glossary@default@style\relax
\else
 \setglossarystyle{\@glossary@default@style}
\fi
\newcommand*\showgloparent}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@parent\endcsname
}
\newcommand*\showglolevel}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@level\endcsname
}
\newcommand*\showglotext}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@text\endcsname
}
\newcommand*\showgloplural}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@plural\endcsname
}
\newcommand*\showglofirst}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@first\endcsname
}

```

```

}
\newcommand*\showglofirstpl}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@firstpl\endcsname
}
\newcommand*\showgloftype}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@type\endcsname
}
\newcommand*\showglocounter}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@counter\endcsname
}
\newcommand*\showglouserii}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@userii\endcsname
}
\newcommand*\showglouseriii}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@useriii\endcsname
}
\newcommand*\showglouseriv}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@useriv\endcsname
}
\newcommand*\showglouserv}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@userv\endcsname
}
\newcommand*\showglouservi}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@uservi\endcsname
}
\newcommand*\showglongname}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@name\endcsname
}
\newcommand*\showglodesc}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@desc\endcsname
}
\newcommand*\showglodescplural}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@descplural\endcsname
}
\newcommand*\showglosort}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@sort\endcsname
}
\newcommand*\showglosymbol}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbol\endcsname
}
\newcommand*\showglosymbolplural}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@symbolplural\endcsname
}
\newcommand*\showgloshort}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@short\endcsname
}
\newcommand*\showglolong}[1]{%

```

```

 \expandafter\show\csname glo@\glsdetoklabel{#1}@long\endcsname
 }
 \newcommand*{\showgloindex}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@index\endcsname
 }
 \newcommand*{\showgloflag}[1]{%
 \expandafter\show\csname ifglo@\glsdetoklabel{#1}@flag\endcsname
 }
 \newcommand*{\showglooclist}[1]{%
 \expandafter\show\csname glo@\glsdetoklabel{#1}@oclist\endcsname
 }
 \newcommand*{\showglofield}[2]{%
 \csshow{glo@\glsdetoklabel{#1}@#2}%
 }
 \newcommand*{\showacronymlists}{%
 \show@\glsacronymlists
 }
 \newcommand*{\showglossaries}{%
 \show@\glo@types
 }
 \newcommand*{\showglossaryin}[1]{%
 \expandafter\show\csname @glo@type@#1@in\endcsname
 }
 \newcommand*{\showglossaryout}[1]{%
 \expandafter\show\csname @glo@type@#1@out\endcsname
 }
 \newcommand*{\showglossarytitle}[1]{%
 \expandafter\show\csname @glo@type@#1@title\endcsname
 }
 \newcommand*{\showglossarycounter}[1]{%
 \expandafter\show\csname @glo@type@#1@counter\endcsname
 }
 \newcommand*{\showglossaryentries}[1]{%
 \expandafter\show\csname glo@list@#1\endcsname
 }
}

```

## Change History

|                                                                                                               |         |
|---------------------------------------------------------------------------------------------------------------|---------|
| 1.01 – 2007-05-17                                                                                             |         |
| General: Added range facility in format key                                                                   | 129     |
| \writeist: Added spaces after \delimN and \delimR in ist file                                                 | 184     |
| 1.04 – 2007-08-03                                                                                             |         |
| General: Added \glstextformat                                                                                 | 117     |
| 1.05 – 2007-08-10                                                                                             |         |
| \glossarysection: added                                                                                       |         |
| \@mkboth to                                                                                                   |         |
| \glossarysection                                                                                              | 54      |
| \gls@defglossaryentry:                                                                                        |         |
| Changed the default value of the sort key to just the value of the name key                                   | 99      |
| 1.07 – 2007-09-13                                                                                             |         |
| \@gls@link: fixed bug caused by \theglsentrycounter setting the page number too soon                          | 127     |
| \glsadd: fixed bug caused by \theglsentrycounter setting the page number too soon                             | 181     |
| 1.08 – 2007-10-13                                                                                             |         |
| General: Added babel support                                                                                  | 48      |
| altlistgroup: changed altlistgroup style to use \glsgetgrouptitle                                             | 287     |
| listgroup: changed listgroup style to use \glsgetgrouptitle                                                   | 286     |
| 1.1 – 2008-02-22                                                                                              |         |
| General: msgen now loaded (\new@ifnextchar needed)                                                            | 6       |
| \@glossarysection: numbered sections and auto label added                                                     | 55      |
| \@gls@tmpb: changed \toksdef to \newtoks                                                                      | 131     |
| \@gls@toc: numberline added                                                                                   | 57      |
| \@p@glossarysection: numbered sections and auto label added                                                   | 56      |
| numberedsection:                                                                                              |         |
| numberedsection package option added                                                                          | 10      |
| numberline: numberline option added                                                                           | 10      |
| \setglossarysection: new                                                                                      | 55      |
| translate: translate option added                                                                             | 30      |
| 1.12 – 2008-03-08                                                                                             |         |
| General: added check for \hypertarget separate to \hyperlink (memoir defines \hyperlink but not \hypertarget) | 139     |
| \@GLSpl: now uses \glsentrydescplural and \glsentrysymbolplural instead of \glsentrydesc and \glsentrysymbol  | 145     |
| \@Glspl0: now uses \glsentrydescplural and \glsentrysymbolplural instead of \glsentrydesc and \glsentrysymbol | 144     |
| \@glspl0: now uses \glsentrydescplural and \glsentrysymbolplural instead of \glsentrydesc and \glsentrysymbol | 143     |
| descriptionplural: new                                                                                        | 79      |
| \gls@defglossaryentry:                                                                                        |         |
| Changed default first plural to be first key with s appended (was text key with s appended)                   | 98      |
| descriptionplural support added                                                                               | 98      |
| symbolplural support added                                                                                    | 98      |
| \Glsentrydescplural: New                                                                                      | 173     |
| \glsentrydescplural: New                                                                                      | 173     |
| \Glsentrysymbolplural: New                                                                                    | 174     |
| \glsentrysymbolplural: New                                                                                    | 174     |
| symbolplural: new                                                                                             | 80      |
| 1.13 – 2008-05-10                                                                                             |         |
| General: fixed bug that ignored 3rd parameter                                                                 | 146–155 |
| \ACRfullpl: new                                                                                               | 253     |
| \Acrfullpl: new                                                                                               | 253     |
| \acrfullpl: new                                                                                               | 252     |
| \acrpluralsuffix: New                                                                                         | 249     |
| \gls@defglossaryentry:                                                                                        |         |
| Changed default first value                                                                                   | 98      |

|                                                                                                                                             |     |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----|--|--|
| Changed default firstplural value . . . . .                                                                                                 | 98  |  |  |
| Removed restriction on only using <code>\newglossaryentry</code> in the preamble . . . . .                                                  | 103 |  |  |
| <code>\newacronym</code> : Removed restriction on only using <code>\newacronym</code> in the preamble . . . . .                             | 249 |  |  |
| 1.14 – 2008-06-17                                                                                                                           |     |  |  |
| General: added nonumberlist key to <code>\printglossary</code> . . . . .                                                                    | 236 |  |  |
| added numberedsection key to <code>\printglossary</code> . . . . .                                                                          | 235 |  |  |
| <code>\@gls@hypergroup</code> : new . . . . .                                                                                               | 281 |  |  |
| <code>\firstacronymfont</code> : new . . . . .                                                                                              | 253 |  |  |
| <code>\glsautoprefix</code> : new . . . . .                                                                                                 | 10  |  |  |
| <code>\glsnavhyperlink</code> : changed <code>\edef</code> to <code>\protected@edef</code> . . . . .                                        | 278 |  |  |
| <code>\glsnavhypertarget</code> : added write to aux file . . . . .                                                                         | 280 |  |  |
| <code>\glsnavigation</code> : changed to only use labels for groups that are present . . . . .                                              | 281 |  |  |
| 1.15 – 2008-08-15                                                                                                                           |     |  |  |
| <code>\@gls@link</code> : added <code>\glslabel</code> . . . . .                                                                            | 127 |  |  |
| <code>\gls@defglossaryentry</code> : check for <code>\@glo@first</code> in description . . . . .                                            | 102 |  |  |
| check for <code>\@glo@text</code> in symbol . . . . .                                                                                       | 103 |  |  |
| <code>\gls@hypergroup@rerun</code> : new . . . . .                                                                                          | 281 |  |  |
| <code>\glsnavhypertarget</code> : added check if rerun required . . . . .                                                                   | 280 |  |  |
| <code>\glssettoctitle</code> : new . . . . .                                                                                                | 47  |  |  |
| <code>\printglossary</code> : changed the way the TOC title is set . . . . .                                                                | 216 |  |  |
| 1.16 – 2008-08-27                                                                                                                           |     |  |  |
| <code>\@GLS@</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .    | 142 |  |  |
| <code>\@GLSp1</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .   | 145 |  |  |
| <code>\@Gls@</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .    | 141 |  |  |
| <code>\@GLSpl@</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .  | 144 |  |  |
| <code>\@gls@</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .    | 141 |  |  |
| <code>\@glsdisp</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . . | 145 |  |  |
| <code>\@glspl@</code> : Test glossary type is <code>\acronymtype</code> in addition to checking if footnote option has been used . . . . .  | 143 |  |  |
| <code>\@gls@target</code> : raised the <code>hypertarget</code> so the target text doesn't scroll off the top of the page . . . . .         | 139 |  |  |
| <code>\gls@defglossaryentry</code> : Changed def to let . . . . .                                                                           | 98  |  |  |
| 1.17 – 2008-12-26                                                                                                                           |     |  |  |
| General: added xindy support . . . . .                                                                                                      | 33  |  |  |
| <code>\@do@esc@wrglossary</code> : new . . . . .                                                                                            | 209 |  |  |
| <code>\@do@seeglossary</code> : new . . . . .                                                                                               | 214 |  |  |
| <code>\@glo@storeentry</code> : new . . . . .                                                                                               | 105 |  |  |
| <code>\@gls@glossary</code> : changed definition to use <code>\index</code> instead of <code>\@index</code> . . . . .                       | 205 |  |  |
| <code>\@gls@defaultplural</code> : new . . . . .                                                                                            | 84  |  |  |
| <code>\@gls@defaultsort</code> : new . . . . .                                                                                              | 84  |  |  |
| <code>\@gls@hypernumber</code> : new . . . . .                                                                                              | 245 |  |  |
| <code>\@glsnoname</code> : new . . . . .                                                                                                    | 83  |  |  |
| <code>\@glsnonextpages</code> : new . . . . .                                                                                               | 237 |  |  |
| <code>\gls@defglossaryentry</code> : added nonumberlist key . . . . .                                                                       | 99  |  |  |
| added parent key . . . . .                                                                                                                  | 99  |  |  |
| added see key . . . . .                                                                                                                     | 99  |  |  |
| Stored main part of entry format when entry is defined . . . . .                                                                            | 103 |  |  |
| <code>\gls@suffixF</code> : new . . . . .                                                                                                   | 52  |  |  |
| <code>\gls@suffixFF</code> : new . . . . .                                                                                                  | 52  |  |  |
| <code>\gls@wrglossary</code> : modified to allow for xindy support . . . . .                                                                | 206 |  |  |
| <code>\gls@hyperlink</code> : new . . . . .                                                                                                 | 180 |  |  |
| <code>\gls@hypernumber</code> : modified to allow material to be attached to location . . . . .                                             | 245 |  |  |

|                                                             |                                                              |
|-------------------------------------------------------------|--------------------------------------------------------------|
| <code>\glsnavhyperlink</code> : replaced                    | 1.46 – 2021-09-20                                            |
| <code>\hyperlink</code> to <code>\@glslink</code> . . . . . | 278                                                          |
| <code>\glsnavhypertarget</code> : replaced                  | General: changed <code>\edef</code> to                       |
| <code>\hypertarget</code> with                              | <code>\protected@edef</code> . . . . . 380                   |
| <code>\@glsstarget</code> . . . . .                         | <code>\@printglossary</code> : changed <code>\xdef</code>    |
| <code>\glssee</code> : new . . . . .                        | to <code>\protected@xdef</code> . . . . . 219                |
| <code>\glsseeformat</code> : new . . . . .                  | <code>\gls@defglossaryentry</code> : changed                 |
| <code>\glsSetSuffixF</code> : new . . . . .                 | <code>\xdef</code> to                                        |
| <code>\glsSetSuffixFF</code> : new . . . . .                | <code>\protected@xdef</code> . . . . . 100, 103              |
| <code>\ifglsxindy</code> : new . . . . .                    | <code>\glsaddprotectedpagefmt</code> :                       |
| <code>\istfilename</code> : added xindy                     | changed <code>\eappto</code> to                              |
| support . . . . .                                           | <code>\protected@eappto</code> . . . . . 208                 |
| <code>\newglossarystyle</code> : made                       | 2.01 – 2009 May 30                                           |
| <code>\newglossarystyle long</code> . . . . .               | <code>\@gls@link</code> : moved                              |
| <code>nonumberlist</code> : new . . . . .                   | <code>\@do@wrglossary</code> before term                     |
| <code>\nopostdesc</code> : new . . . . .                    | is displayed to prevent                                      |
| <code>order</code> : order package option                   | unwanted whatsit . . . . . 127                               |
| added . . . . .                                             | <code>\forallglossaries</code> : replaced                    |
| <code>parent</code> : new . . . . .                         | <code>\ifthenelse</code> with <code>\ifx</code> . . . . . 66 |
| <code>\printglossary</code> : added check to                | <code>\forlsgentries</code> : replaced                       |
| determine if <code>\printglossary</code>                    | <code>\ifthenelse</code> with <code>\ifx</code> . . . . . 67 |
| is already defined . . . . .                                | <code>\glsdefmain</code> : new . . . . . 19                  |
| added print language to aux                                 | <code>\glsdescwidth</code> : changed                         |
| file . . . . .                                              | <code>\linewidth</code> to <code>\hsize</code> . 289, 312    |
| <code>see</code> : new . . . . .                            | <code>\glslistdottedwidth</code> : changed                   |
| <code>\writeist</code> : added xindy support 184            | <code>\linewidth</code> to <code>\hsize</code> . . . . . 288 |
| 1.18 – 2009-01-14                                           | <code>\glspagelistwidth</code> : changed                     |
| <code>\@gls@loadlist</code> : new . . . . .                 | <code>\linewidth</code> to <code>\hsize</code> . 289, 312    |
| <code>\@gls@loadlong</code> : new . . . . .                 | <code>nomain</code> : added <code>nomain</code> package      |
| <code>\@gls@loadsuper</code> : new . . . . .                | option . . . . . 20                                          |
| <code>\@gls@loadtree</code> : new . . . . .                 | <code>\writeist</code> : removed <code>item_02</code> -      |
| <code>\gls@defglossaryentry</code> :                        | no such <code>makeindex</code> key . . . 188                 |
| Changed default value of sort                               | 2.02 – 2007-07-13                                            |
| to <code>\@glsdefaultsort</code> . . . . .                  | <code>\@printglossary</code> : suppressed                    |
| moved sort sanitization to                                  | warning globally rather than                                 |
| <code>\newglossaryentry</code> . . . . .                    | locally . . . . . 219                                        |
| <code>\glsstarget</code> : new . . . . .                    | 2.02 – 2009-07-13                                            |
| <code>nolist</code> : new . . . . .                         | <code>\glossarysection</code> : changed                      |
| <code>nolong</code> : new . . . . .                         | <code>\@mkboth</code> to <code>\glossarymark</code> 54       |
| <code>nostyles</code> : new . . . . .                       | <code>\gls glossarymark</code> : New . . . . . 54            |
| <code>nosuper</code> : new . . . . .                        | 2.03 – 2009-09-23                                            |
| <code>notree</code> : new . . . . .                         | <code>\@GLS@</code> : Added check for                        |
| <code>\oldacronym</code> : new . . . . .                    | <code>hyperfirst</code> . . . . . 142                        |
| <code>sort</code> : moved sanitization to                   | <code>\@GLSp1</code> : Added check for                       |
| <code>\newglossaryentry</code> . . . . .                    | <code>hyperfirst</code> . . . . . 145                        |
| 1.19 – 2009-03-02                                           | <code>\@GLS@</code> : Added check for                        |
| <code>\glsclearpage</code> : new . . . . .                  | <code>hyperfirst</code> . . . . . 141                        |
| <code>\glsdisp</code> : new . . . . .                       | <code>\@GLSp1@</code> : Added check for                      |
|                                                             | <code>hyperfirst</code> . . . . . 144                        |
|                                                             | <code>\@gls@</code> : Added check for                        |
|                                                             | <code>hyperfirst</code> . . . . . 141                        |

|                                                          |     |                                                           |     |
|----------------------------------------------------------|-----|-----------------------------------------------------------|-----|
| <code>\@gls@link</code> : new                            | 125 | <code>\gls@defglossaryentry</code> : added                |     |
| <code>\@gls@link</code> : added <code>\leavevmode</code> | 127 | user1-6 keys                                              | 99  |
| Moved entry existence check to                           |     | <code>\glsadd</code> : fixed bug that ignored             |     |
| avoid duplicate code                                     | 127 | counter                                                   | 181 |
| <code>\@glsdisp</code> : Added check for                 |     | <code>\Glsentryuseri</code> : new                         | 176 |
| <code>hyperfirst</code>                                  | 145 | <code>\glsentryuseri</code> : new                         | 176 |
| <code>\@glspl@</code> : Added check for                  |     | <code>\Glsentryuserii</code> : new                        | 176 |
| <code>hyperfirst</code>                                  | 143 | <code>\glsentryuserii</code> : new                        | 176 |
| <code>\gls glossarymark</code> : Added check             |     | <code>\Glsentryuseriii</code> : new                       | 176 |
| to see if it's already defined                           | 54  | <code>\glsentryuseriii</code> : new                       | 176 |
| <code>hyperfirst</code> : new                            | 31  | <code>\Glsentryuseriv</code> : new                        | 177 |
| 2.04 – 2009-11-10                                        |     | <code>\glsentryuseriv</code> : new                        | 176 |
| <code>\@GLS@</code> : Changed test to check if           |     | <code>\Glsentryuserv</code> : new                         | 177 |
| glossary type has been                                   |     | <code>\glsentryuserv</code> : new                         | 177 |
| identified as a list of                                  |     | <code>\Glsentryuservi</code> : new                        | 177 |
| acronyms                                                 | 142 | <code>\glsentryuservi</code> : new                        | 177 |
| <code>\@GLSpl@</code> : Changed test to check if         |     | <code>\ns@newglossary</code> : added check to             |     |
| glossary type has been                                   |     | determine if                                              |     |
| identified as a list of                                  |     | <code>\gls@<i>type</i>@display</code> and                 |     |
| acronyms                                                 | 145 | <code>\gls@<i>type</i>@displayfirst</code>                |     |
| <code>\@Gls@</code> : Changed test to check if           |     | have been defined.                                        | 76  |
| glossary type has been                                   |     | <code>\SetAcronymLists</code> : new                       | 22  |
| identified as a list of                                  |     | <code>\SetDefaultAcronymDisplayStyle</code> :             |     |
| acronyms                                                 | 141 | new                                                       | 268 |
| <code>\@Glspl@</code> : Changed test to check            |     | <code>\SetDefaultAcronymStyle</code> : new                | 268 |
| if glossary type has been                                |     | <code>\SetDescriptionAcronymDisplayStyle</code> :         |     |
| identified as a list of                                  |     | new                                                       | 269 |
| acronyms                                                 | 144 | <code>\SetDescriptionDUAAcronymDisplayStyle</code> :      |     |
| <code>\@glossaryentryfield</code> : new                  | 104 | new                                                       | 269 |
| <code>\@glossarysubentryfield</code> : new               | 104 | <code>\SetDescriptionFootnoteAcronymDisplayStyle</code> : |     |
| <code>\@gls@</code> : Changed test to check if           |     | new                                                       | 269 |
| glossary type has been                                   |     | <code>\SetDUADisplayStyle</code> : new                    | 270 |
| identified as a list of                                  |     | <code>\SetFootnoteAcronymDisplayStyle</code> :            |     |
| acronyms                                                 | 141 | new                                                       | 270 |
| <code>\@glsacronymlists</code> : new                     | 21  | <code>\SetSmallAcronymDisplayStyle</code> :               |     |
| <code>\@glsdisp</code> : Changed test to check           |     | new                                                       | 270 |
| if glossary type has been                                |     | 2.05 – 2010-02-06                                         |     |
| identified as a list of                                  |     | <code>\@glsdisp</code> : Added closing brace.             |     |
| acronyms                                                 | 145 | Patch provided by Sergiu                                  |     |
| <code>\@glspl@</code> : Changed test to check            |     | Dotenco                                                   | 145 |
| if glossary type has been                                |     | Removed spurious brace. Patch                             |     |
| identified as a list of                                  |     | provided by Sergiu Dotenco                                | 145 |
| acronyms                                                 | 143 | <code>\writeist</code> : Added <code>\string</code>       |     |
| <code>\@newglossaryentryposthook</code> :                |     | before opening and closing                                |     |
| new                                                      | 104 | braces. Patch provided by                                 |     |
| <code>\@newglossaryentryprehook</code> :                 |     | Segiu Dotenco                                             | 189 |
| new                                                      | 104 | 2.06 – 2010-06-14                                         |     |
| <code>acronymlists</code> : new                          | 22  | <code>\altnewglossary</code> : new                        | 76  |
| <code>\DeclareAcronymList</code> : new                   | 21  | <code>\CustomAcronymFields</code> : new                   | 271 |
| <code>\DefineAcronymSynonyms</code> : new                | 266 | <code>\CustomNewAcronymDef</code> : new                   | 271 |

|                                    |                  |                                      |     |
|------------------------------------|------------------|--------------------------------------|-----|
| \SetCustomDisplayStyle: new .      | 271              | added \glsnextpages . . . . .        | 219 |
| \SetCustomStyle: new . . . . .     | 271              | make toctitle default to title .     | 218 |
| 2.07 – 2010-07-10                  |                  | \@xdyattributelist: new . . . . .    | 58  |
| General: glsadd format key stored  |                  | \acrfootnote: new . . . . .          | 269 |
| in \@glsnumberformat (was          |                  | \ACRfull: added starred version      | 252 |
| mistakenly stored in               |                  | \Acrfull: added starred version      | 252 |
| \@glo@format) . . . . .            | 180              | \acrfull: added starred version      | 251 |
| 3.0 – 2010-07-12                   |                  | \ACRfullpl: added starred            |     |
| \@makeglossary: Added check for    |                  | version . . . . .                    | 253 |
| savewrites . . . . .               | 194              | \Acrfullpl: added starred            |     |
| \gls@wrglossary: modified to       |                  | version . . . . .                    | 253 |
| take into account savewrites       | 206              | \acrfullpl: added starred            |     |
| 3.0 – 2010/03/31                   |                  | version . . . . .                    | 252 |
| \@set@glo@numformat: added 4th     |                  | \acrlinkfootnote: new . . . . .      | 269 |
| argument . . . . .                 | 129              | \acrnolinkfootnote: new . . . . .    | 269 |
| 3.0 – 2011-04-02                   |                  | compatible-2.07:                     |     |
| General: added prefix to           |                  | compatible-2.07 option added         | 38  |
| hyperlink . . . . .                | 247              | counter: replaced \@ifundefined      |     |
| etoolbox now loaded . . . . .      | 6                | with \ifcsundef . . . . .            | 80  |
| replaced \@ifundefined with        |                  | counterwithin: new . . . . .         | 14  |
| \ifcsundef . . . . .               | 46, 49, 123, 235 | entrycounter: new . . . . .          | 14  |
| \@do@esc@wrglossary: added         |                  | glossaryentry: new . . . . .         | 14  |
| check for hyper location           |                  | \glossarysection: replaced           |     |
| prefix . . . . .                   | 212              | \@ifundefined with                   |     |
| modified to use new format .       | 209              | \ifcsundef . . . . .                 | 54  |
| \@glossarysec: replaced            |                  | \glossarystyle: replaced             |     |
| \@ifundefined with                 |                  | \@ifundefined with                   |     |
| \ifcsundef . . . . .               | 10               | \ifcsundef . . . . .                 | 244 |
| \@do@seeglossary: Sanitize and     |                  | glossarysubentry: new . . . . .      | 15  |
| escape cross-referencing           |                  | \gls@codepage: replaced              |     |
| information . . . . .              | 214              | \@ifundefined with                   |     |
| \@gls@counterwithin: new . . . . . | 15               | \ifcsundef . . . . .                 | 34  |
| \@gls@ifinlist: new . . . . .      | 58               | \gls@defglossaryentry: added         |     |
| \@gls@link: added                  |                  | \@gls@defsot . . . . .               | 103 |
| \@gls@saveentrycounter .           | 127              | added short and long keys . .        | 99  |
| added \@gls@setsort . . . . .      | 127              | replaced \@ifundefined with          |     |
| \@gls@saveentrycounter: new .      | 128              | \ifcsundef . . . . .                 | 99  |
| \@gls@setupsort@def: new . . . . . | 17               | \gls@doclearpage: replaced           |     |
| \@gls@setupsort@standard: new      | 16               | \@ifundefined with                   |     |
| \@gls@setupsort@use: new . . . . . | 17               | \ifcsundef . . . . .                 | 56  |
| \@gls@xdy@locationlist: new .      | 61               | \glsadd: added                       |     |
| \@glslink: replaced                |                  | \@gls@saveentrycounter .             | 181 |
| \@ifundefined with                 |                  | \GlsAddXdyCounters: new . . . . .    | 58  |
| \ifcsundef . . . . .               | 139              | \glsentrycounterlabel: new . . . . . | 238 |
| \@glsnextpages: new . . . . .      | 237              | \glsentryitem: new . . . . .         | 238 |
| \@print@glossary: replaced         |                  | \Glsentrylong: new . . . . .         | 178 |
| \@ifundefined with                 |                  | \glsentrylong: new . . . . .         | 178 |
| \ifcsundef . . . . .               | 220              | \Glsentrylongpl: new . . . . .       | 178 |
| \@printglossary: added             |                  | \glsentrylongpl: new . . . . .       | 178 |
| \currentglossary . . . . .         | 219              | \Glsentryshort: new . . . . .        | 177 |



|                                              |     |                                                           |     |
|----------------------------------------------|-----|-----------------------------------------------------------|-----|
| <code>\glstryshort</code> : new              | 177 | replaced <code>\@ifundefined</code> with                  |     |
| <code>\Glsentryshortpl</code> : new          | 178 | <code>\ifcsundef</code>                                   | 76  |
| <code>\glstryshortpl</code> : new            | 177 | <code>\oldacronym</code> : replaced                       |     |
| <code>\glsgrouptitle</code> : replaced       |     | <code>\@ifundefined</code> with                           |     |
| <code>\@ifundefined</code> with              |     | <code>\ifcsundef</code>                                   | 248 |
| <code>\ifcsundef</code>                      | 242 | <code>\printglossary</code> : replaced                    |     |
| <code>\glsglossarymark</code> : replaced     |     | <code>\@ifundefined</code> with                           |     |
| <code>\@ifundefined</code> with              |     | <code>\ifcsundef</code>                                   | 216 |
| <code>\ifcsundef</code>                      | 54  | <code>savewrites</code> : new                             | 38  |
| <code>\glshyperlink</code> : changed default |     | <code>see</code> : added                                  |     |
| from <code>\glstryname</code> to             |     | <code>\@glo@seeautonumberlist</code>                      | 80  |
| <code>\glstrytext</code>                     | 180 | <code>seeautonumberlist</code> : new                      | 12  |
| <code>\glshyphnumber</code> : replaced       |     | <code>\SetDescriptionFootnoteAcronymDisplayStyle</code> : |     |
| <code>\@ifundefined</code> with              |     | expanded options link                                     |     |
| <code>\ifcsundef</code>                      | 245 | options                                                   | 269 |
| <code>\glstnumberformat</code> : replaced    |     | <code>\setentrycounter</code> : added                     |     |
| <code>\@ifundefined</code> with              |     | optional argument                                         | 243 |
| <code>\ifcsundef</code>                      | 53  | <code>short</code> : new                                  | 83  |
| <code>\glstrefentry</code> : new             | 238 | <code>shortplural</code> : new                            | 83  |
| <code>\glstresetsubentrycounter</code> :     |     | <code>\showacronymlists</code> : new                      | 276 |
| new                                          | 237 | <code>\showglocounter</code> : new                        | 273 |
| <code>\glstseeitem</code> : hyperlink uses   |     | <code>\showgloDESC</code> : new                           | 274 |
| <code>\glstseeitemformat</code> instead of   |     | <code>\showgloDESCplural</code> : new                     | 275 |
| <code>\glstryname</code>                     | 215 | <code>\showglofirst</code> : new                          | 273 |
| <code>\glstseeitemformat</code> : new        | 215 | <code>\showglofirstpl</code> : new                        | 273 |
| <code>\glstsortnumberfmt</code> : new        | 16  | <code>\showgloflag</code> : new                           | 276 |
| <code>\glststepentry</code> : new            | 238 | <code>\showgloindex</code> : new                          | 276 |
| <code>\glststepsubentry</code> : new         | 238 | <code>\showglolevel</code> : new                          | 272 |
| <code>\glstsubentrycounterlabel</code> :     |     | <code>\showgloNAME</code> : new                           | 274 |
| new                                          | 238 | <code>\showgloparent</code> : new                         | 272 |
| <code>\glstsubentryitem</code> : new         | 239 | <code>\showgloplural</code> : new                         | 272 |
| <code>\ifglossaryexists</code> : replaced    |     | <code>\showglosort</code> : new                           | 275 |
| <code>\@ifundefined</code> with              |     | <code>\showglossaries</code> : new                        | 276 |
| <code>\ifcsundef</code>                      | 67  | <code>\showglossarycounter</code> : new                   | 277 |
| <code>\ifglstryexists</code> : replaced      |     | <code>\showglossaryentries</code> : new                   | 277 |
| <code>\@ifundefined</code> with              |     | <code>\showglossaryin</code> : new                        | 277 |
| <code>\ifcsundef</code>                      | 68  | <code>\showglossaryout</code> : new                       | 277 |
| <code>\istfile</code> : deprecated           | 204 | <code>\showglossarytitle</code> : new                     | 277 |
| <code>long</code> : new                      | 83  | <code>\showglosymbol</code> : new                         | 275 |
| <code>longplural</code> : new                | 83  | <code>\showglosymbolplural</code> : new                   | 275 |
| <code>\newglossaryentry</code> : replaced    |     | <code>\showglotext</code> : new                           | 272 |
| <code>\DeclareRobustCommand</code> with      |     | <code>\showglotype</code> : new                           | 273 |
| <code>\newrobustcmd</code>                   | 86  | <code>\showglouserI</code> : new                          | 273 |
| <code>\newglossarystyle</code> : replaced    |     | <code>\showglouserII</code> : new                         | 273 |
| <code>\@ifundefined</code> with              |     | <code>\showglouserIII</code> : new                        | 274 |
| <code>\ifcsundef</code>                      | 244 | <code>\showglouserIV</code> : new                         | 274 |
| <code>nonumberlist</code> : now boolean      | 81  | <code>\showglouserV</code> : new                          | 274 |
| <code>\ns@newglossary</code> : added         |     | <code>\showglouserVI</code> : new                         | 274 |
| <code>\@gls@defsortcount</code>              | 76  | <code>sort</code> : new                                   | 15  |
|                                              |     | <code>subentrycounter</code> : new                        | 15  |

|                                       |     |                                     |     |
|---------------------------------------|-----|-------------------------------------|-----|
| theglossary: replaced                 |     | \glsname: made robust . . . . .     | 150 |
| \@ifundefined with                    |     | \GLSpl: made robust . . . . .       | 144 |
| \ifcsundef . . . . .                  | 239 | \Glspl: made robust . . . . .       | 143 |
| \writeist: added xindy-only           |     | \glspl: made robust . . . . .       | 142 |
| macro definitions to glossary         |     | \GLSplplural: made robust . . . . . | 149 |
| open tag . . . . .                    | 186 | \GLSsymbol: made robust . . . . .   | 154 |
| modified to support new               |     | \Glsymbol: made robust . . . . .    | 153 |
| format . . . . .                      | 184 | \glsymbol: made robust . . . . .    | 153 |
| 3.01 – 2011-04-12                     |     | \GLSsymbolplural: made robust       | 155 |
| General: made robust . . . . .        | 142 | \Glsymbolplural: made robust        | 154 |
| \@glswritefiles: added check          |     | \glsymbolplural: made robust        | 154 |
| for empty glossaries . . . . .        | 204 | \GLstext: made robust . . . . .     | 147 |
| \ACRfull: made robust . . . . .       | 252 | \glstext: made robust . . . . .     | 146 |
| \Acrfull: made robust . . . . .       | 252 | \GLSuseri: made robust . . . . .    | 156 |
| \acrfull: made robust . . . . .       | 251 | \Glsuseri: made robust . . . . .    | 155 |
| \acrfullformat: removed               |     | \glsuseri: made robust . . . . .    | 155 |
| \acronymfont as it should             |     | \GLSuserii: made robust . . . . .   | 157 |
| already be set in the second          |     | \Glsuserii: made robust . . . . .   | 156 |
| argument. . . . .                     | 250 | \glsuserii: made robust . . . . .   | 156 |
| \ACRfullpl: made robust . . . . .     | 253 | \GLSuseriii: made robust . . . . .  | 158 |
| \Acrfullpl: made robust . . . . .     | 253 | \Glsuseriii: made robust . . . . .  | 157 |
| \acrfullpl: made robust . . . . .     | 252 | \glsuseriii: made robust . . . . .  | 157 |
| \ACRlong: made robust . . . . .       | 166 | \GLSuseriv: made robust . . . . .   | 159 |
| \Acrlong: made robust . . . . .       | 166 | \Glsuseriv: made robust . . . . .   | 158 |
| \acrlong: made robust . . . . .       | 165 | \glsuseriv: made robust . . . . .   | 158 |
| \ACRlongpl: made robust . . . . .     | 168 | \GLSuseriv: made robust . . . . .   | 160 |
| \Acrlongpl: made robust . . . . .     | 168 | \Glsuseriv: made robust . . . . .   | 159 |
| \acrlongpl: made robust . . . . .     | 167 | \glsuseriv: made robust . . . . .   | 159 |
| \ACRshort: made robust . . . . .      | 162 | \GLSuserivi: made robust . . . . .  | 161 |
| \Acrshort: made robust . . . . .      | 162 | \Glsuserivi: made robust . . . . .  | 160 |
| \acrshort: made robust . . . . .      | 161 | \glsuserivi: made robust . . . . .  | 160 |
| \ACRshortpl: made robust . . . . .    | 164 | 3.02 – 2012-05-19                   |     |
| \Acrshortpl: made robust . . . . .    | 164 | \glsnumlistlastsep: new . . . . .   | 180 |
| \acrshortpl: made robust . . . . .    | 163 | \glsnumlistsep: new . . . . .       | 180 |
| \Gls: made robust . . . . .           | 141 | 3.02 – 2012-05-21                   |     |
| \glsadd: made robust . . . . .        | 181 | \@do@wrglossary: changed            |     |
| \glsaddall: made robust . . . . .     | 181 | \@glslocref to                      |     |
| \GLSdesc: made robust . . . . .       | 152 | \theglsentrycounter . . . . .       | 212 |
| \Glsdesc: made robust . . . . .       | 151 | \do@wrglossary: changed             |     |
| \glsdesc: made robust . . . . .       | 151 | \do@wr@glossary to test for         |     |
| \GLSdescplural: made robust . . . . . | 153 | indexonlyfirst option; put old      |     |
| \Glsdescplural: made robust . . . . . | 152 | \do@wr@glossary code into           |     |
| \glsdescplural: made robust . . . . . | 152 | \@do@wrglossary . . . . .           | 206 |
| \glsfirst: made robust . . . . .      | 147 | \@gls@missingnumberlist: new        | 84  |
| \GLSfirstplural: made robust          | 150 | \@glswritefiles: added check        |     |
| \Glsfirstplural: made robust          | 149 | for existence of token in case      |     |
| \glsfirstplural: made robust          | 149 | \makeglossaries has been            |     |
| \glslink: made robust . . . . .       | 125 | omitted . . . . .                   | 204 |
| \GLSname: made robust . . . . .       | 151 | \@printglossary: add a way to       |     |
| \Glsname: made robust . . . . .       | 150 | fetch current entry label . . . . . | 219 |

|                                                                                                                                 |     |                                                                                                                          |     |
|---------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------|-----|
| <code>\gls@defglossaryentry</code> : added<br>numberlist element . . . . .                                                      | 102 | <code>\glspostinline</code> : replaced “.”<br>with <code>\glspostdescription</code>                                      | 284 |
| <code>\gls@save@numberlist</code> : new . .                                                                                     | 216 | index: added check for<br><code>glsnogroupskip</code> . . . . .                                                          | 327 |
| <code>\gls@wrglossary</code> : added check<br>for glossary file defined . . .                                                   | 206 | list: added check for<br><code>glsnogroupskip</code> . . . . .                                                           | 286 |
| <code>\glsdisplaynumberlist</code> : new .                                                                                      | 179 | long: added check for<br><code>glsnogroupskip</code> . . . . .                                                           | 290 |
| <code>\glsentrycounter</code> : set default<br>value . . . . .                                                                  | 128 | long3col: added check for<br><code>glsnogroupskip</code> . . . . .                                                       | 291 |
| <code>\Glsentryfull</code> : fixed bug<br>(replaced <code>\glsentryshortpl</code><br>with <code>\glsentryshort</code> ) . . . . | 178 | long4col: added check for<br><code>glsnogroupskip</code> . . . . .                                                       | 293 |
| <code>\glsentryfullpl</code> : fixed bug<br>(replaced <code>\glsentryshort</code><br>with <code>\glsentryshortpl</code> ) . .   | 178 | longragged: added check for<br><code>glsnogroupskip</code> . . . . .                                                     | 301 |
| <code>\glsentrynumberlist</code> : new . . .                                                                                    | 179 | longragged3col: added check for<br><code>glsnogroupskip</code> . . . . .                                                 | 302 |
| <code>\glsmoveentry</code> : new . . . . .                                                                                      | 104 | nogroupskip: new . . . . .                                                                                               | 14  |
| <code>\glsresetentrycounter</code> : new .                                                                                      | 237 | nopostdot: new . . . . .                                                                                                 | 13  |
| <code>\ifglshaschildren</code> : new . . . . .                                                                                  | 70  | super: added check for<br><code>glsnogroupskip</code> . . . . .                                                          | 312 |
| <code>\ifglshasparent</code> : new . . . . .                                                                                    | 70  | super3col: added check for<br><code>glsnogroupskip</code> . . . . .                                                      | 314 |
| indexonlyfirst: new . . . . .                                                                                                   | 31  | super4col: added check for<br><code>glsnogroupskip</code> . . . . .                                                      | 316 |
| <code>\makeglossaries</code> : added list<br>parser . . . . .                                                                   | 199 | superragged: added check for<br><code>glsnogroupskip</code> . . . . .                                                    | 320 |
| <code>\renewglossarystyle</code> : new . . .                                                                                    | 244 | superragged3col: added check<br>for <code>glsnogroupskip</code> . . . . .                                                | 322 |
| savenumberlist: new . . . . .                                                                                                   | 12  | tree: added check for<br><code>glsnogroupskip</code> . . . . .                                                           | 329 |
| <code>\showglossaryentries</code> : fixed<br>misspelt command . . . . .                                                         | 277 | treenoname: added check for<br><code>glsnogroupskip</code> . . . . .                                                     | 330 |
| <code>\SmallNewAcronymDef</code> : fixed<br>broken short and long plural                                                        | 270 |                                                                                                                          |     |
| ucmark: new . . . . .                                                                                                           | 14  |                                                                                                                          |     |
| 3.03 – 2012/09/21                                                                                                               |     |                                                                                                                          |     |
| General: allow title to set<br>toctitle . . . . .                                                                               | 234 |                                                                                                                          |     |
| <code>\@gls@sanitizesort</code> : new . . . .                                                                                   | 25  | 3.04 – 2012-11-11                                                                                                        |     |
| <code>\@gls@setupsort@standard</code> : used<br><code>\@gls@sanitizesort</code> . . . . .                                       | 16  | <code>altlist</code> : replaced <code>\newline</code> with<br>paragraph break . . . . .                                  | 287 |
| <code>\@printglossary</code> : allow title to<br>override default toctitle . . .                                                | 218 | 3.04 – 2012-11-18                                                                                                        |     |
| <code>altlongragged4col</code> : added check<br>for <code>glsnogroupskip</code> . . . . .                                       | 304 | General: Added check for doc<br>package . . . . .                                                                        | 6   |
| <code>altsuperragged4col</code> : added<br>check for <code>glsnogroupskip</code> . .                                            | 323 | added datatool-base as a<br>required package . . . . .                                                                   | 50  |
| <code>almtree</code> : added check for<br><code>glsnogroupskip</code> . . . . .                                                 | 333 | added local key . . . . .                                                                                                | 124 |
| <code>\glsinlinedescformat</code> : new . .                                                                                     | 284 | <code>\@do@wrglossary</code> : changed<br><code>\theglsentrycounter</code> back to<br><code>\@glslocref</code> . . . . . | 212 |
| <code>\glsinlineemptydescformat</code> :<br>new . . . . .                                                                       | 284 | <code>\@do@esc@wrglossary</code> : modified<br>to compensate for possible<br>incorrect page number . . . .               | 211 |
| <code>\glsinlinenameformat</code> : new . .                                                                                     | 284 | <code>\@gls@esc@csdq</code> : unsanitize<br><code>\gls@numberpage</code> ,<br><code>\gls@alphpage</code> ,               |     |
| <code>\glsinlinepostchild</code> : new . . .                                                                                    | 284 |                                                                                                                          |     |
| <code>\glsinlinesubdescformat</code> : new                                                                                      | 284 |                                                                                                                          |     |
| <code>\glsinlinesubnameformat</code> : new                                                                                      | 284 |                                                                                                                          |     |

|                                  |     |                    |                                     |
|----------------------------------|-----|--------------------|-------------------------------------|
| \gls@Alphpage and                |     |                    |                                     |
| \gls@romanpage                   | 130 | 3.07 – 2013-07-05  | \findrootlanguage: Obsoleted . 65   |
| \@print@glossary: Moved aux      |     |                    | \@gls@link: fixed bug that failed   |
| write to end of document to      |     |                    | to find entry in list . . . . . 127 |
| prevent unwanted whatsit         |     |                    | \glossary preamble: modified to     |
| occurring here. . . . .          | 220 |                    | work with                           |
| \gls@Alphpage: new . . . . .     | 207 |                    | \setglossary preamble . . . . . 54  |
| \gls@alphpage: new . . . . .     | 207 |                    | \gls@docclearpage: added check      |
| \gls@disablepagerefexpansion:    |     |                    | for openright . . . . . 56          |
| new . . . . .                    | 207 |                    | \glspostdescription: Added          |
| \gls@numberpage: new . . . . .   | 207 |                    | spacefactor code . . . . . 13       |
| \gls@protected@pagefmts: new     | 207 |                    | \GlsSetXdyCodePage: Added           |
| \gls@romanpage: new . . . . .    | 207 |                    | check for fontspec . . . . . 66     |
| \glsdefmain: added check for doc |     |                    | \SetDescriptionAcronymDisplayStyle: |
| package . . . . .                | 19  |                    | now using                           |
| \glsorg@endtheglossary: new ..   | 6   |                    | \glsdoparenifnotempty .. 269        |
| \glsorg@theglossary: new . . . . | 6   |                    | \setglossary preamble: new .. 54    |
| \PrintChanges: new . . . . .     | 6   | 3.08a – 2013-08-30 |                                     |
| 3.05 – 2013-04-21                |     |                    | altlist: updated altlist style to   |
| \@do@esc@wrglossary: add         |     |                    | use \glossentry and                 |
| Roman case. Fixed bugs in        |     |                    | \subglossentry . . . . . 287        |
| the else statements . . . . .    | 211 |                    | inline: updated inline style to     |
| \@gls@link: added check for      |     |                    | use \glossentry and                 |
| “nohypertypes” . . . . .         | 127 |                    | \subglossentry . . . . . 282        |
| \gls@protected@pagefmts:         |     |                    | list: updated list style to use     |
| added Roman to list . . . . .    | 207 |                    | \glossentry and                     |
| \gls@Romanpage: new . . . . .    | 207 |                    | \subglossentry . . . . . 286        |
| \glsgetgrouplabel: fixed bug     |     |                    | listdotted: updated listdotted      |
| (typo in \equal) . . . . .       | 243 |                    | style to use \glossentry and        |
| \glsmcols: new . . . . .         | 306 |                    | \subglossentry . . . . . 288        |
| mcolalttree: replaced ‘2’ with   |     | 3.08a – 2013-09-28 |                                     |
| \glsmcols . . . . .              | 310 |                    | General: added nogroupskip key      |
| mcolindex: replaced ‘2’ with     |     |                    | to \printglossary . . . . . 235     |
| \glsmcols . . . . .              | 306 |                    | removed definition of               |
| mcolindexspannav: replaced ‘2’   |     |                    | \@glossaryentryfield . . . 369      |
| with \glsmcols . . . . .         | 307 |                    | removed definition of               |
| mcoltree: replaced ‘2’ with      |     |                    | \@glossarysubentryfield 369         |
| \glsmcols . . . . .              | 307 |                    | \@glo@storeentry: no longer         |
| mcoltreenoname: replaced ‘2’     |     |                    | need to check for special           |
| with \glsmcols . . . . .         | 309 |                    | characters in any of the fields     |
| mcoltreepspannav: replaced ‘2’   |     |                    | other than sort . . . . . 105       |
| with \glsmcols . . . . .         | 308 |                    | updated for \glossentry . . . 105   |
| \nopostdesc: made robust . . . . | 50  |                    | \@glossaryentryfield: switched      |
| 3.05 – 2013/04/21                |     |                    | to \glossentry . . . . . 104        |
| \@gls@nohyperlist: new . . . . . | 22  |                    | \@glossarysubentryfield:            |
| \GlsDeclareNoHyperList: new . .  | 22  |                    | switched to \subglossentry 104      |
| nohypertypes: new . . . . .      | 23  |                    | \@gls@sanitizedesc: deprecated 24   |
| 3.06 – 2013/06/17                |     |                    | altlongragged4col: updated to       |
| \@xdy@main@language: Changed     |     |                    | use \glossentry and                 |
| back to using \language name     | 33  |                    | \subglossentry . . . . . 304        |

|                                 |     |                                  |     |
|---------------------------------|-----|----------------------------------|-----|
| alttree: updated to use         |     | superragged: updated to use      |     |
| \glossentry and                 |     | \glossentry and                  |     |
| \subglossentry .....            | 332 | \subglossentry .....             | 319 |
| \compatibleglossentry: new .    | 239 | tree: updated to use             |     |
| \compatiblesubglossentry:       |     | \glossentry and                  |     |
| new .....                       | 241 | \subglossentry .....             | 328 |
| \glossaryentryfield:            |     | 3.09a – 2013-10-09               |     |
| deprecated .....                | 241 | \@gls@assign@symbolplural@field: |     |
| \glossarystyle: deprecated ..   | 244 | new .....                        | 25  |
| \glossentry: new .....          | 240 | \@gls@default@value: new ...     | 79  |
| \Glossentrydesc: new .....      | 240 | \Glsentrydesc: made robust ..    | 172 |
| \glossentrydesc: new .....      | 240 | \Glsentrydescplural: made        |     |
| \Glossentryname: new .....      | 240 | robust .....                     | 173 |
| \glossentryname: new .....      | 240 | \Glsentryfirst: made robust ..   | 174 |
| \Glossentrysymbol: new .....    | 241 | \Glsentryfirstplural: made       |     |
| \glossentrysymbol: new .....    | 240 | robust .....                     | 175 |
| \gls@assign@desc@field: new .   | 24  | \Glsentryfull: made robust ..    | 178 |
| \gls@assign@descplural@field:   |     | \Glsentryfullpl: made robust     | 179 |
| new .....                       | 25  | \Glsentrylong: made robust ..    | 178 |
| \gls@assign@field: new .....    | 86  | \Glsentrylongpl: made robust     | 178 |
| \gls@ifnotmeasuring: new ...    | 107 | \Glsentryname: made robust ..    | 171 |
| \glsaddallunused: new .....     | 182 | \Glsentryplural: made robust     | 173 |
| \glsexpandfields: new .....     | 86  | \Glsentryshort: made robust .    | 177 |
| \glsnoexpandfields: new .....   | 86  | \Glsentryshortpl: made robust    | 178 |
| \glssee: made robust .....      | 214 | \Glsentrysymbol: made robust     | 174 |
| \glsseeformat: made robust ..   | 215 | \Glsentrysymbolplural: made      |     |
| \glsseeitem: made robust ....   | 215 | robust .....                     | 174 |
| \glsseelist: made robust ....   | 215 | \Glsentrytext: made robust ..    | 173 |
| \ifglsdescsuppressed: new ..    | 71  | \Glsentryuseri: made robust .    | 176 |
| \ifglshasdesc: new .....        | 71  | \Glsentryuserii: made robust     | 176 |
| \ifglshassymbol: new .....      | 71  | \Glsentryuseriii: made robust    | 176 |
| index: added paragraph break at |     | \Glsentryuseriv: made robust     | 177 |
| end of environment .....        | 326 | \Glsentryuserv: made robust .    | 177 |
| updated to use \glossentry      |     | \Glsentryuservi: made robust     | 177 |
| and \subglossentry .....        | 327 | \glstextup: new .....            | 249 |
| long: updated to use            |     | \ifglshassymbol: changed test    |     |
| \glossentry and                 |     | to check for                     |     |
| \subglossentry .....            | 289 | \@gls@default@symbol ....        | 71  |
| longragged: updated to use      |     | 3.10a – 2013-09-28               |     |
| \glossentry and                 |     | \gls@assign@type@field: new .    | 24  |
| \subglossentry .....            | 301 | 3.10a – 2013-10-13               |     |
| longragged3col: updated to use  |     | \@gls@keymap: new .....          | 89  |
| \glossentry and                 |     | \@gls@provide@newglossary:       |     |
| \subglossentry .....            | 302 | new .....                        | 74  |
| \setglossarystyle: new .....    | 244 | \@gls@writedef: new .....        | 89  |
| \setglossentrycompatibility:    |     | \@gls@defaultplural: Obsolete .  | 84  |
| new .....                       | 241 | \@gls@nodesc: new .....          | 83  |
| \subglossentry: new .....       | 241 | \@print@glossary: Added          |     |
|                                 |     | providecommand code to aux       |     |
|                                 |     | file .....                       | 220 |

|                                                         |          |
|---------------------------------------------------------|----------|
| <code>\gls@defglossaryentry:</code>                     |          |
| Changed to using                                        |          |
| <code>\@gls@default@value</code> ..                     | 98, 99   |
| new .....                                               | 98       |
| <code>\gls@writedefhook:</code> new .....               | 97       |
| <code>\makeglossaries:</code> Added                     |          |
| providecommand code to aux                              |          |
| file .....                                              | 198      |
| <code>\new@glossaryentry:</code> new .....              | 87       |
| <code>\ns@newglossary:</code> added                     |          |
| <code>\@gls@provide@newglossary</code>                  | 76       |
| 3.11a – 2013-10-15                                      |          |
| General: added <code>\glslabel</code> ,                 |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glsinsert</code> and                             |          |
| <code>\glscustomtext</code> .....                       | 161–169  |
| changed to just use                                     |          |
| <code>\Glsentrydescplural</code> .....                  | 153      |
| changed to just use                                     |          |
| <code>\glsentrydescplural</code> ..                     | 152, 153 |
| changed to just use                                     |          |
| <code>\Glsentrydesc</code> .....                        | 152      |
| changed to just use                                     |          |
| <code>\glsentrydesc</code> .....                        | 151, 152 |
| changed to just use                                     |          |
| <code>\Glsentryfirstplural</code> ...                   | 150      |
| changed to just use                                     |          |
| <code>\glsentryfirstplural</code>                       | 149, 150 |
| changed to just use                                     |          |
| <code>\Glsentryfirst</code> .....                       | 148      |
| changed to just use                                     |          |
| <code>\glsentryfirst</code> .....                       | 147, 148 |
| changed to just use                                     |          |
| <code>\Glsentryname</code> .....                        | 151      |
| changed to just use                                     |          |
| <code>\glsentryname</code> .....                        | 150, 151 |
| changed to just use                                     |          |
| <code>\Glsentryplural</code> .....                      | 149      |
| changed to just use                                     |          |
| <code>\glsentryplural</code> .....                      | 148, 149 |
| changed to just use                                     |          |
| <code>\Glsentrysymbolplural</code> ..                   | 155      |
| changed to just use                                     |          |
| <code>\glsentrysymbolplural</code>                      | 154, 155 |
| changed to just use                                     |          |
| <code>\Glsentrysymbol</code> .....                      | 154      |
| changed to just use                                     |          |
| <code>\glsentrysymbol</code> .....                      | 153, 154 |
| Changed to just use                                     |          |
| <code>\Glsentrytext</code> .....                        | 147      |
| changed to just use                                     |          |
| <code>\glsentrytext</code> .....                        | 146      |
| changed to just use                                     |          |
| <code>\Glsentryuseriii</code> .....                     | 158      |
| changed to just use                                     |          |
| <code>\glsentryuseriii</code> ...                       | 157, 158 |
| changed to just use                                     |          |
| <code>\Glsentryuserii</code> .....                      | 157      |
| changed to just use                                     |          |
| <code>\glsentryuserii</code> .....                      | 156, 157 |
| changed to just use                                     |          |
| <code>\Glsentryuseriv</code> .....                      | 159      |
| changed to just use                                     |          |
| <code>\glsentryuseriv</code> .....                      | 158, 159 |
| changed to just use                                     |          |
| <code>\Glsentryuseri</code> .....                       | 156      |
| changed to just use                                     |          |
| <code>\glsentryuseri</code> .....                       | 155, 156 |
| changed to just use                                     |          |
| <code>\Glsentryuservi</code> .....                      | 161      |
| changed to just use                                     |          |
| <code>\glsentryuservi</code> .....                      | 160, 161 |
| changed to just use                                     |          |
| <code>\Glsentryuserv</code> .....                       | 160      |
| changed to just use                                     |          |
| <code>\glsentryuserv</code> .....                       | 159, 160 |
| Now requires <code>textcase</code> .....                | 5        |
| <code>\@ACRlong:</code> added <code>\glslabel</code> ,  |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glsinsert</code> and                             |          |
| <code>\glscustomtext</code> .....                       | 364      |
| <code>\@ACRshort:</code> added <code>\glslabel</code> , |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glsinsert</code> and                             |          |
| <code>\glscustomtext</code> .....                       | 363      |
| <code>\@Acrlong:</code> added <code>\glslabel</code> ,  |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glsinsert</code> and                             |          |
| <code>\glscustomtext</code> .....                       | 364      |
| <code>\@Acrshort:</code> added <code>\glslabel</code> , |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glsinsert</code> and                             |          |
| <code>\glscustomtext</code> .....                       | 362      |
| <code>\@GLS@:</code> add <code>\glslabel</code> ,       |          |
| <code>\glsifplural</code> , <code>\glscapscase</code> , |          |
| <code>\glscustomtext</code> and                         |          |
| <code>\glsinsert</code> .....                           | 142      |
| change to using <code>\glsentryfmt</code>               |          |
| style commands .....                                    | 142      |

|                                                                      |     |                                                                                   |     |
|----------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|-----|
| removed \MakeUppercase (now moved to \glentryfmt) ..                 | 142 | \@glsp1@: add \glslabel,                                                          |     |
| \@GLSpl: add \glslabel,                                              |     | \glsifplural, \glscapscase,                                                       |     |
| \glsifplural, \glscapscase,                                          |     | \glscustomtext and                                                                |     |
| \glsinsert .....                                                     | 144 | \glsinsert .....                                                                  | 143 |
| change to using \glentryfmt style commands .....                     | 145 | change to using \glentryfmt style commands .....                                  | 143 |
| removed \MakeUppercase as now dealt with in                          |     | acronymlists: replaced                                                            |     |
| \glentryfmt .....                                                    | 145 | \@addtoacronymlists with                                                          |     |
| \@Gls@: add \glsifplural,                                            |     | \DeclareAcronymList .....                                                         | 22  |
| \glscapscase,                                                        |     | compatible-3.07: new .....                                                        | 38  |
| \glscustomtext and                                                   |     | \defglsdisplay: obsolete                                                          | 122 |
| \glsinsert .....                                                     | 141 | \defglsdisplayfirst: obsolete                                                     | 122 |
| change to using \glentryfmt style commands .....                     | 141 | \defglentryfmt: new .....                                                         | 74  |
| removed \makefirstuc (now dealt with in \glentryfmt)                 | 141 | \forglentries: replaced \ifx with \ifdefempty .....                               | 67  |
| \@Glspl@: add \glsifplural,                                          |     | \gls@assign@desc: new .....                                                       | 97  |
| \glscapscase,                                                        |     | \gls@defglossaryentry: Fixed default counter if none supplied .....               | 102 |
| \glscustomtext and                                                   |     | \gls@doentryfmt: new .....                                                        | 74  |
| \glsinsert .....                                                     | 144 | \glsdisplay: obsolete .....                                                       | 122 |
| change to using \glentryfmt style commands .....                     | 144 | \glsdisplayfirst: obsolete ..                                                     | 122 |
| removed \makefirstuc (now dealt with in \glentryfmt)                 | 144 | \glsentryfmt: new .....                                                           | 117 |
| \@acrlong: added \glslabel,                                          |     | \glsgetgrouptitle: Added check in case non-Latin alphabet in use .....            | 242 |
| \glsifplural, \glscapscase,                                          |     | \gls glossarymark: replaced \MakeUppercase with \mfirstucMakeUppercase ..         | 54  |
| \glsinsert and                                                       |     | \glsnavigation: switched to using \@gls@getgrouptitle                             | 281 |
| \glscustomtext .....                                                 | 363 | \ifglshasdesc: replaced \ifdefempty with \ifcempty .....                          | 71  |
| \@acrshort: added \glslabel,                                         |     | \ifglshaslong: new .....                                                          | 71  |
| \glsifplural, \glscapscase,                                          |     | \ifglshasshort: new .....                                                         | 71  |
| \glsinsert and                                                       |     | \ifglshassymbol: replaced \ifdefempty with \ifcempty .....                        | 71  |
| \glscustomtext .....                                                 | 362 | \ifglsused: replaced \ifthenelse with \ifbool ..                                  | 68  |
| \@gls@: add \glslabel,                                               |     | \longnewglossaryentry: new ..                                                     | 97  |
| \glsifplural, \glscapscase,                                          |     | \ns@newglossary: replaced \glsdisplay and \glsdisplayfirst with \glentryfmt ..... | 76  |
| \glscustomtext and                                                   |     | numbers: new .....                                                                | 40  |
| \glsinsert .....                                                     | 140 | \SetCustomDisplayStyle: updated to use \defglentryfmt .....                       | 271 |
| change to using \glentryfmt style commands .....                     | 141 |                                                                                   |     |
| \@gls@noexpand@fields: Fixed bug expand replaced with noexpand ..... | 85  |                                                                                   |     |
| \@glsdisp: add \glslabel,                                            |     |                                                                                   |     |
| \glsifplural, \glscapscase,                                          |     |                                                                                   |     |
| \glscustomtext and                                                   |     |                                                                                   |     |
| \glsinsert .....                                                     | 145 |                                                                                   |     |
| change to using \glentryfmt style commands .....                     | 145 |                                                                                   |     |

|                                                             |                                               |
|-------------------------------------------------------------|-----------------------------------------------|
| <code>\SetDefaultAcronymDisplayStyle:</code>                | <code>\gls@assign@desc@field:</code>          |
| changed to use                                              | changed to use                                |
| <code>\defglsentryfmt</code> ..... 268                      | <code>\glssetnoexpandfield</code> .... 24     |
| <code>\SetDescriptionAcronymDisplayStyle:</code>            | <code>\gls@assign@descplural@field:</code>    |
| updated to use                                              | changed to use                                |
| <code>\defglsentryfmt</code> ..... 269                      | <code>\glssetnoexpandfield</code> .... 25     |
| <code>\SetDescriptionDUAAcronymDisplayStyle:</code>         | <code>\gls@assign@name@field:</code>          |
| updated to use                                              | changed to use                                |
| <code>\defglsentryfmt</code> ..... 269                      | <code>\glssetnoexpandfield</code> .... 25     |
| <code>\SetDescriptionFootnoteAcronymDisplayStyle:</code>    | <code>\gls@assign@type@field:</code>          |
| updated to use                                              | changed to use                                |
| <code>\defglsentryfmt</code> ..... 269                      | <code>\glssetexpandfield</code> ..... 24      |
| <code>\SetDUADisplayStyle:</code> updated                   | <code>\gls@checkseeallowed:</code> new .. 81  |
| to use <code>\defglsentryfmt</code> .. 270                  | <code>\glsaddallunused:</code> set default to |
| <code>\SetFootnoteAcronymDisplayStyle:</code>               | <code>\@glo@types</code> ..... 182            |
| updated to use                                              | <code>\Glsentryfull:</code> changed to use    |
| <code>\defglsentryfmt</code> ..... 270                      | <code>\acrfullformat</code> ..... 178         |
| <code>\SetSmallAcronymDisplayStyle:</code>                  | <code>\glsentryfull:</code> changed to use    |
| updated to use                                              | <code>\acrfullformat</code> ..... 178         |
| <code>\defglsentryfmt</code> ..... 270                      | <code>\Glsentryfullpl:</code> changed to use  |
| <code>\setupglossaries:</code> new ..... 45                 | <code>\acrfullformat</code> ..... 179         |
| <code>\showglolong:</code> new ..... 275                    | <code>\glsentryfullpl:</code> changed to use  |
| <code>\showgloshort:</code> new ..... 275                   | <code>\acrfullformat</code> ..... 178         |
| <code>symbols:</code> new ..... 40                          | <code>\gls glossarymark:</code> renamed       |
| 3.12a – 2013-10-16                                          | <code>\glossarymark</code> to                 |
| <code>\gls@defglossaryentry:</code> added                   | <code>\gls glossarymark</code> to avoid       |
| <code>\glslabel</code> ..... 98                             | conflict with memoir ..... 54                 |
| <code>\glsaddkey:</code> new ..... 91                       | <code>\glsprestandardsort:</code> new ... 15  |
| 3.13a – 2013-11-05                                          | <code>\glssetexpandfield:</code> new .... 24  |
| <code>\@gls@assign@symbol@field:</code>                     | <code>\glssetnoexpandfield:</code> new .. 24  |
| changed to use                                              | long: switched to                             |
| <code>\glssetnoexpandfield</code> .... 25                   | <code>\tabularnewline</code> .... 289, 290    |
| <code>\@gls@assign@symbolplural@field:</code>               | long3col: switched to                         |
| changed to use                                              | <code>\tabularnewline</code> ..... 291        |
| <code>\glssetnoexpandfield</code> .... 25                   | long3colheader: switched to                   |
| <code>\@gls@link:</code> removed <code>\relax</code> .. 127 | <code>\tabularnewline</code> ..... 292        |
| <code>\@gls@notranslatorhook:</code> new . 29               | long3colheaderborder: switched                |
| <code>\@gls@setupsort@standard:</code>                      | to <code>\tabularnewline</code> ..... 292     |
| moved <code>\@gls@santizesort</code> to                     | long4col: switched to                         |
| <code>\glsprestandardsort</code> ..... 16                   | <code>\tabularnewline</code> ..... 292        |
| altsuper4colheader: switched to                             | long4colheader: switched to                   |
| <code>\tabularnewline</code> ..... 317                      | <code>\tabularnewline</code> ..... 293        |
| altsuper4colheaderborder:                                   | longheader: switched to                       |
| switched to                                                 | <code>\tabularnewline</code> ..... 290        |
| <code>\tabularnewline</code> ..... 318                      | longheaderborder: switched to                 |
| <code>\glossarysection:</code> changed                      | <code>\tabularnewline</code> ..... 290        |
| <code>\glossarymark</code> to                               | see: added                                    |
| <code>\gls glossarymark</code> ..... 54                     | <code>\gls@checkseeallowed</code> .... 80     |
|                                                             | super: switched to                            |
|                                                             | <code>\tabularnewline</code> ..... 312        |



|                                    |         |                                 |     |
|------------------------------------|---------|---------------------------------|-----|
| super3col: switched to             |         | \@acrfull: now using            |     |
| \tabularnewline                    | 314     | \acrfullfmt                     | 251 |
| super3colheader: switched to       |         | \@gls@indexdef: new             | 41  |
| \tabularnewline                    | 315     | \@gls@numbersdef: new           | 41  |
| super4col: switched to             |         | \@gls@symbolsdef: new           | 40  |
| \tabularnewline                    | 316     | \ACRfullfmt: new                | 251 |
| super4colheader: switched to       |         | \Acrfullfmt: new                | 251 |
| \tabularnewline                    | 316     | \acrfullfmt: new                | 251 |
| super4colheaderborder:             |         | \ACRfullplfmt: new              | 251 |
| switched to                        |         | \Acrfullplfmt: new              | 251 |
| \tabularnewline                    | 317     | \acrfullplfmt: new              | 251 |
| superheader: switched to           |         | \acronymentry: new              | 255 |
| \tabularnewline                    | 313     | dua: new                        | 262 |
| superheaderborder: switched to     |         | dua-desc: new                   | 263 |
| \tabularnewline                    | 313     | footnote: new                   | 264 |
| ucmark: added check for memoir     | 14      | footnote-desc: new              | 266 |
| 3.14a – 2013-11-12                 |         | footnote-sc: new                | 265 |
| General: new                       | 336     | footnote-sc-desc: new           | 266 |
| \@glswritefiles: renamed           |         | footnote-sm: new                | 265 |
| \glswritefiles to                  |         | footnote-sm-desc: new           | 266 |
| \@glswritefiles and used           |         | \Genacrfullformat: new          | 122 |
| “savewrites” option to set         |         | \genacrfullformat: new          | 121 |
| \glswritefiles                     | 204     | \GenericAcronymFields: new      | 255 |
| acronyms: new                      | 20      | \Genplacrfullformat: new        | 122 |
| compatible-2.07: added check       |         | \genplacrfullformat: new        | 122 |
| for 2.07 before setting 3.07       |         | \Glsentryfull: bug fix: added   |     |
| compatibility                      | 39      | missing \acronymfont            | 178 |
| \@gls@defglossaryentry: added      |         | \Glsentryfull: bug fix: added   |     |
| check for existence of default     |         | missing \acronymfont            | 178 |
| glossary                           | 99      | \Glsentryfullpl: bug fix: added |     |
| set the default for firstplural to |         | missing \acronymfont            | 179 |
| be the value of plural             | 101     | \Glsentryfullpl: bug fix: added |     |
| \longprovideglossaryentry:         |         | missing \acronymfont            | 178 |
| new                                | 98      | \glsgenacfmt: new               | 119 |
| notranslate: new                   | 30      | \GlsUseAcrEntryDisplayStyle:    |     |
| \provideglossaryentry: new         | 86      | new                             | 256 |
| xindygloss: new                    | 34      | \GlsUseAcrStyleDefs: new        | 256 |
| 4.0 – 2013-11-14                   |         | index: new                      | 41  |
| \@gls@defglossaryentry: added      |         | long-sc-short: new              | 259 |
| check for first key                | 101     | long-sc-short-desc: new         | 260 |
| super: fixed typo in               |         | long-short: new                 | 257 |
| \subglossentry                     |         | long-short-desc: new            | 260 |
| (\glossentrydesc)                  | 312     | long-sm-short: new              | 259 |
| 4.01 – 2013-11-16                  |         | long-sm-short-desc: new         | 260 |
| General: fixed non-value options   |         | \newacronymstyle: new           | 256 |
| so that they can be passed to      |         | numberedsection: added nameref  |     |
| document class                     | 11      | option                          | 10  |
| 4.02 – 2013-12-05                  |         | sanitize: fixed bug that caused |     |
| General: Removed                   |         | an error here                   | 29  |
| \acronymfont                       | 165–169 | sc-short-long: new              | 259 |

|                                  |     |                                 |     |
|----------------------------------|-----|---------------------------------|-----|
| sc-short-long-desc: new . . . .  | 261 | moved \@gls@link@opts and       |     |
| \setacronymstyle: new . . . . .  | 255 | \@gls@link@label to             |     |
| \SetGenericNewAcronym: new . .   | 254 | \@gls@link . . . . .            | 127 |
| short-long: new . . . . .        | 258 | \@gls@writedef: added           |     |
| short-long-desc: new . . . . .   | 261 | \glsdetoklabel . . . . .        | 89  |
| sm-short-long: new . . . . .     | 259 | \@glsdisp: removed \glslabel    |     |
| sm-short-long-desc: new . . . .  | 261 | (defined in \@gls@link) . .     | 145 |
| xindynoglsnumbers: new . . . . . | 34  | \@glspl@: removed \glslabel     |     |
| 4.02 – 2013-13-05                |     | (defined in \@gls@link) . .     | 143 |
| \makeglossaries: made            |     | \@printglossary: added          |     |
| preamble only . . . . .          | 199 | \glsdetoklabel . . . . .        | 219 |
| 4.03 – 2014-01-17                |     | \compatibleglossentry: added    |     |
| General: changed default to      |     | \glsdetoklabel . . . . .        | 344 |
| \@empty instead of \relax . .    | 38  | \compatiblesubglossentry:       |     |
| 4.03 – 2014-01-20                |     | added \glsdetoklabel . . .      | 344 |
| General: removed \glslabel       |     | dua: fixed bug in \acrfullfmt . | 263 |
| (defined in \@gls@link) . .      | 161 | fixed bug in \Acrfullplfmt .    | 263 |
| \@do@esc@wrglossary: added       |     | fixed bug in \acrfullplfmt .    | 263 |
| \glsdetoklabel . . . . .         | 212 | redefined to use accessibility  |     |
| \@do@noesc@wrglossary: added     |     | information . . . . .           | 374 |
| \glsdetoklabel . . . . .         | 209 | dua-desc: commented spurious    |     |
| \@ACRlong: removed \glslabel     |     | EOL . . . . .                   | 264 |
| (defined in \@gls@link) . .      | 364 | redefined to use accessibility  |     |
| \@ACRshort: removed \glslabel    |     | information . . . . .           | 376 |
| (defined in \@gls@link) . .      | 363 | footnote: redefined to use      |     |
| \@Acrlong: removed \glslabel     |     | accessibility information . .   | 377 |
| (defined in \@gls@link) . .      | 364 | footnote-desc: redefined to use |     |
| \@Acrshort: removed \glslabel    |     | accessibility information . .   | 379 |
| (defined in \@gls@link) . .      | 362 | footnote-sc: redefined to use   |     |
| \@GLS@: removed \glslabel        |     | accessibility information . .   | 378 |
| (defined in \@gls@link) . .      | 142 | footnote-sc-desc: redefined to  |     |
| \@GLSpl: removed \glslabel       |     | use accessibility information   | 379 |
| (defined in \@gls@link) . .      | 144 | footnote-sm: redefined to use   |     |
| \@Gls@: removed \glslabel        |     | accessibility information . .   | 379 |
| (defined in \@gls@link) . .      | 141 | footnote-sm-desc: redefined to  |     |
| \@Gls@entry@field: new . . . . . | 170 | use accessibility information   | 379 |
| \@Glspl@: removed \glslabel      |     | \Genacrfullformat: redefined to |     |
| (defined in \@gls@link) . .      | 144 | use accessibility information   | 362 |
| \@acrlong: removed \glslabel     |     | \genacrfullformat: redefined to |     |
| (defined in \@gls@link) . .      | 363 | use accessibility information   | 361 |
| \@acrshort: removed \glslabel    |     | \Genplacrfullformat: redefined  |     |
| (defined in \@gls@link) . .      | 362 | to use accessibility            |     |
| \@gls@: removed \glslabel        |     | information . . . . .           | 362 |
| (defined in \@gls@link) . .      | 140 | \genplacrfullformat: redefined  |     |
| \@gls@access@display: new . .    | 353 | to use accessibility            |     |
| \@gls@entry@field: new . . . . . | 169 | information . . . . .           | 362 |
| \@gls@fetchfield: new . . . . .  | 90  | \glossentryname: added          |     |
| \@gls@field@link: new . . . . .  | 146 | \glsdetoklabel . . . . .        | 240 |
| \@gls@link: added                |     | \gls@defglossaryentry: added    |     |
| \glsdetoklabel . . . . .         | 127 | \glsdetoklabel . . . . .        | 98  |

|                                |     |                               |     |
|--------------------------------|-----|-------------------------------|-----|
| replaced #1 with \@glo@label   | 99  | \glslocalunset: added         |     |
| replaced \ifthenelse with      |     | \glsdetoklabel                | 109 |
| \ifdefequal                    | 100 | \glsmoveentry: added          |     |
| \glsadd: added \glsdetoklabel  | 181 | \glsdetoklabel                | 104 |
| \glsaddkey: switched to using  |     | replaced \ifthenelse with     |     |
| \@gls@field@link               | 92  | \ifdefequal                   | 104 |
| \glsdetoklabel: new            | 68  | \glsrefentry: added           |     |
| \glsdisplaynumberlist: added   |     | \glsdetoklabel                | 238 |
| \glsdetoklabel                 | 179 | \glsreset: added              |     |
| \glsdoifexistsorwarn: new      | 69  | \glsdetoklabel                | 108 |
| \glsentryaccess: switched to   |     | \glsseelist: added            |     |
| using \@gls@entry@field        | 349 | \expandafter commands         | 215 |
| \glsentrydescaccess: switched  |     | \glsstepentry: added          |     |
| to using \@gls@entry@field     | 350 | \glsdetoklabel                | 238 |
| \glsentrydescpluralaccess:     |     | \glsstepsubentry: added       |     |
| switched to using              |     | \glsdetoklabel                | 238 |
| \@gls@entry@field              | 350 | \glsunset: added              |     |
| \glsentryfirstaccess: switched |     | \glsdetoklabel                | 109 |
| to using \@gls@entry@field     | 350 | \ifglsdescsuppressed: added   |     |
| \glsentryfirstplural: added    |     | \glsdetoklabel                | 71  |
| \glsdetoklabel                 | 174 | fixed typo                    | 71  |
| \glsentrylongaccess: switched  |     | \ifglsentryexists: added      |     |
| to using \@gls@entry@field     | 351 | \glsdetoklabel                | 68  |
| \glsentrylongpluralaccess:     |     | \ifglschaschildren: added     |     |
| switched to using              |     | \glsdetoklabel                | 70  |
| \@gls@entry@field              | 351 | \ifglschasdesc: added         |     |
| \glsentrypluralaccess:         |     | \glsdetoklabel                | 71  |
| switched to using              |     | \ifglschasfield: new          | 72  |
| \@gls@entry@field              | 350 | \ifglschaslong: added         |     |
| \glsentryshortaccess: switched |     | \glsdetoklabel                | 71  |
| to using \@gls@entry@field     | 350 | \ifglschasparent: added       |     |
| \glsentryshortpluralaccess:    |     | \glsdetoklabel                | 70  |
| switched to using              |     | \ifglschasshort: added        |     |
| \@gls@entry@field              | 350 | \glsdetoklabel                | 71  |
| \glsentrysymbolaccess:         |     | \ifglschassymbol: added       |     |
| switched to using              |     | \glsdetoklabel                | 71  |
| \@gls@entry@field              | 350 | replaced \ifcsempy with       |     |
| \glsentrysymbolpluralaccess:   |     | \ifdefempty and replaced      |     |
| switched to using              |     | \ifx with \ifdefequal         | 71  |
| \@gls@entry@field              | 350 | \ifglsused: added             |     |
| \glsentrytextaccess: switched  |     | \glsdetoklabel                | 68  |
| to using \@gls@entry@field     | 349 | long-sc-short-desc: redefined |     |
| \glsacacfmt: redefined to use  |     | to use accessibility          |     |
| accessibility information      | 359 | information                   | 372 |
| \glsacacentryfmt: redefined to |     | long-short: redefined to use  |     |
| use accessibility information  | 357 | accessibility information     | 371 |
| \glsacachyperlink: added       |     | long-short-desc: redefined to |     |
| \glsdetoklabel                 | 180 | use accessibility information | 372 |
| \glslocalreset: added          |     |                               |     |
| \glsdetoklabel                 | 109 |                               |     |

|                                                                          |     |                                                                          |     |
|--------------------------------------------------------------------------|-----|--------------------------------------------------------------------------|-----|
| long-sm-short-desc: redefined to use accessibility information . . . . . | 373 | \showgloplural: added                                                    |     |
| \renewacronymstyle: new . . . .                                          | 256 | \glsdetoklabel . . . . .                                                 | 272 |
| sc-short-long-desc: redefined to use accessibility information . . . . . | 373 | \showglopluralaccess: added                                              |     |
| short-long: commented spurious EOL . . . . .                             | 259 | \glsdetoklabel . . . . .                                                 | 381 |
| short-long-desc: redefined to use accessibility information . . . . .    | 371 | \showgloshort: added                                                     |     |
| short-long-desc: redefined to use accessibility information . . . . .    | 373 | \glsdetoklabel . . . . .                                                 | 275 |
| \showglocounter: added                                                   |     | \showgloshortaccess: added                                               |     |
| \glsdetoklabel . . . . .                                                 | 273 | \glsdetoklabel . . . . .                                                 | 382 |
| \showglodesc: added                                                      |     | \showgloshortpluralaccess: added \glsdetoklabel . . .                    | 382 |
| \glsdetoklabel . . . . .                                                 | 274 | \showglosort: added                                                      |     |
| \showglodescaccess: added                                                |     | \glsdetoklabel . . . . .                                                 | 275 |
| \glsdetoklabel . . . . .                                                 | 381 | \showglosymbol: added                                                    |     |
| \showglodescplural: added                                                |     | \glsdetoklabel . . . . .                                                 | 275 |
| \glsdetoklabel . . . . .                                                 | 275 | \showglosymbolaccess: added                                              |     |
| \showglodescpluralaccess: added \glsdetoklabel . . .                     | 381 | \glsdetoklabel . . . . .                                                 | 381 |
| \showglofirst: added                                                     |     | \showglosymbolplural: added                                              |     |
| \glsdetoklabel . . . . .                                                 | 273 | \glsdetoklabel . . . . .                                                 | 275 |
| \showglofirstaccess: added                                               |     | \showglosymbolpluralaccess: added \glsdetoklabel . . .                   | 381 |
| \glsdetoklabel . . . . .                                                 | 381 | \showglotext: added                                                      |     |
| \showglofirstpl: added                                                   |     | \glsdetoklabel . . . . .                                                 | 272 |
| \glsdetoklabel . . . . .                                                 | 273 | \showglotextaccess: added                                                |     |
| \showglofirstpluralaccess: added \glsdetoklabel . . .                    | 381 | \glsdetoklabel . . . . .                                                 | 381 |
| \showgloflag: added                                                      |     | \showglotype: added                                                      |     |
| \glsdetoklabel . . . . .                                                 | 276 | \glsdetoklabel . . . . .                                                 | 273 |
| \showgloindex: added                                                     |     | \showglouserii: added                                                    |     |
| \glsdetoklabel . . . . .                                                 | 276 | \glsdetoklabel . . . . .                                                 | 273 |
| \showglolevel: added                                                     |     | \showglouseriii: added                                                   |     |
| \glsdetoklabel . . . . .                                                 | 272 | \glsdetoklabel . . . . .                                                 | 274 |
| \showglolong: added                                                      |     | \showglouseriv: added                                                    |     |
| \glsdetoklabel . . . . .                                                 | 275 | \glsdetoklabel . . . . .                                                 | 274 |
| \showglolongaccess: added                                                |     | \showglouservi: added                                                    |     |
| \glsdetoklabel . . . . .                                                 | 382 | \glsdetoklabel . . . . .                                                 | 274 |
| \showglolongpluralaccess: added \glsdetoklabel . . .                     | 382 | \showglouserivii: added                                                  |     |
| \glsdetoklabel . . . . .                                                 | 382 | \glsdetoklabel . . . . .                                                 | 274 |
| \showglongname: added                                                    |     | \showglouseriviii: added                                                 |     |
| \glsdetoklabel . . . . .                                                 | 274 | \glsdetoklabel . . . . .                                                 | 274 |
| \showglongnameaccess: added                                              |     | \showglouseriviiii: added                                                |     |
| \glsdetoklabel . . . . .                                                 | 381 | \glsdetoklabel . . . . .                                                 | 274 |
| \showgloparent: added                                                    |     | \showglouserivv: added                                                   |     |
| \glsdetoklabel . . . . .                                                 | 272 | \glsdetoklabel . . . . .                                                 | 274 |
|                                                                          |     | sm-short-long-desc: redefined to use accessibility information . . . . . | 374 |
|                                                                          |     | 4.04 – 2014-03-04                                                        |     |
|                                                                          |     | \@gls@getcounterprefix: added                                            |     |
|                                                                          |     | warning if no prefix can be formed . . . . .                             | 213 |
|                                                                          |     | 4.04 – 2014-03-06                                                        |     |
|                                                                          |     | General: added sort key to printgloss group . . . . .                    | 236 |
|                                                                          |     | \@@gls@noidx@nosanitizesort: new . . . . .                               | 26  |

|                                                       |     |                                                |          |
|-------------------------------------------------------|-----|------------------------------------------------|----------|
| <code>\@gls@noidx@sanitizesort:</code>                |     | <code>\gls@defglossaryentry:</code>            |          |
| new                                                   | 25  | replaced <code>\ifx</code> with                |          |
| <code>\@gls@nosanitizesort: new</code>                | 25  | <code>\ifdefvoid</code>                        | 103      |
| <code>\@gls@sanitizesort: new</code>                  | 25  | <code>\glsnoidxdisplayloc: new</code>          | 234      |
| <code>\@glo@addchildren: new</code>                   | 226 | <code>\glsnoidxdisplayloclisthandler:</code>   |          |
| <code>\@glo@do@sortentries: new</code>                | 226 | new                                            | 233      |
| <code>\@glo@grabfirst: new</code>                     | 231 | <code>\glsnoidxloclist: new</code>             | 233      |
| <code>\@glo@sortedinsert: new</code>                  | 227 | <code>\glsnoidxloclisthandler: new</code>      | 233      |
| <code>\@glo@sortentries: new</code>                   | 225 | <code>\glsnoidxstripaccents: new</code>        | 26       |
| <code>\@glo@sorthandler@case: new</code>              | 228 | <code>\makeglossaries: Moved</code>            |          |
| <code>\@glo@sorthandler@letter:</code>                |     | definition of <code>\glswrite</code> to        |          |
| new                                                   | 227 | <code>\makeglossaries</code>                   | 198      |
| <code>\@glo@sorthandler@nocase:</code>                |     | <code>\makenoidxglossaries: new</code>         | 200      |
| new                                                   | 228 | <code>\printglossary: changed to use</code>    |          |
| <code>\@glo@sorthandler@word: new</code>              | 227 | new <code>\@printglossary</code>               | 217      |
| <code>\@glo@sortmacro@case: new</code>                | 229 | <code>\printnoidxglossaries: new</code>        | 217      |
| <code>\@glo@sortmacro@def: new</code>                 | 229 | <code>\printnoidxglossary: new</code>          | 217      |
| <code>\@glo@sortmacro@def@do: new</code>              | 230 | <code>\showgloloclist: new</code>              | 276      |
| <code>\@glo@sortmacro@letter: new</code>              | 228 | <code>\warn@noprintglossary:</code>            |          |
| <code>\@glo@sortmacro@nocase: new</code>              | 229 | Activate warning in                            |          |
| <code>\@glo@sortmacro@standard:</code>                |     | <code>\makeglossaries</code>                   | 216      |
| new                                                   | 229 | <code>\writeist: checked for definition</code> |          |
| <code>\@glo@sortmacro@use: new</code>                 | 230 | of <code>\glswrite</code>                      | 184, 188 |
| <code>\@glo@sortmacro@word: new</code>                | 228 | 4.06 – 2014-03-12                              |          |
| <code>\@gls@noidx@do: new</code>                      | 232 | General: added                                 |          |
| <code>\@gls@noidx@getgrouptitle:</code>               |     | <code>\glsifhyper</code>                       | 162–169  |
| new                                                   | 243 | <code>\@GLS@: added \glsifhyper</code>         | 142      |
| <code>\@gls@noref@warn: new</code>                    | 203 | <code>\@GLSpl: added \glsifhyper</code>        | 145      |
| <code>\@gls@reference: new</code>                     | 234 | <code>\@Gls@: added \glsifhyper</code>         | 141      |
| <code>\@gls@warnonglossdefined: new</code>            | 24  | <code>\@Glspl@: added \glsifhyper</code>       | 144      |
| <code>\@gls@warnontheglossdefined:</code>             |     | <code>\@gls@: added \glsifhyper</code>         | 141      |
| new                                                   | 24  | <code>\@gls@numbersdef: added hook</code>      |          |
| <code>\@no@makeglossaries: new</code>                 | 203 | to set toc title                               | 41       |
| <code>\@print@glossary: new</code>                    | 220 | <code>\@gls@symbolsdef: added hook</code>      |          |
| <code>\@print@noidx@glossary: new</code>              | 230 | to set toc title                               | 40       |
| <code>\@printgloss@setsort: new</code>                | 217 | <code>\@glsdisp: added \glsifhyper</code>      | 145      |
| <code>\@printglossary: new</code>                     | 218 | <code>\@glspl@: added \glsifhyper</code>       | 143      |
| <code>alltree: moved hangindent and</code>            |     | acronym: added hook to set toc                 |          |
| <code>parindent</code> assignments outside            |     | title                                          | 20       |
| level test                                            | 332 | acronyms: added hook to set toc                |          |
| <code>\compatibleglossentry: changed</code>           |     | title                                          | 20       |
| <code>\newcommand</code> to <code>\def</code> as is   |     | <code>\glsdefmain: added hook to set</code>    |          |
| may or may not be defined                             | 344 | toc title                                      | 19       |
| <code>\compatiblesubglossentry:</code>                |     | 4.07 – 2014-04-04                              |          |
| changed <code>\newcommand</code> to <code>\def</code> |     | <code>\@glossarysection: added</code>          |          |
| as is may or may not be                               |     | optional argument when using                   |          |
| defined                                               | 344 | unstarred version                              | 55       |
| <code>\glo@grabfirst: new</code>                      | 231 | <code>\@gls@noidx@do: added \global</code>     |          |
|                                                       |     | in case it's used in a                         |          |
|                                                       |     | tabular-like style                             | 232      |

|                                                      |         |
|------------------------------------------------------|---------|
| <code>\Acrfullplfmt</code> : fixed no case           |         |
| change bug                                           | 251     |
| <code>\glsletentryfield</code> : new                 | 169     |
| 4.08 – 2014-07-30                                    |         |
| General: added <code>entrycounter</code>             |         |
| option to <code>printgloss</code> family             | 236     |
| added <code>nopostdot</code> option to               |         |
| <code>printgloss</code> family                       | 235     |
| added <code>subentrycounter</code> option            |         |
| to <code>printgloss</code> family                    | 236     |
| explicitly initialise hyper key                      | 123     |
| moved <code>\glsifhyper</code>                       | 162–169 |
| removed <code>\@sACRlongpl</code>                    | 168     |
| removed <code>\@sAcrlongpl</code>                    | 168     |
| removed <code>\@sacrlongpl</code>                    | 167     |
| removed <code>\@sACRlong</code>                      | 166     |
| removed <code>\@sAcrlong</code>                      | 166     |
| removed <code>\@sacrlong</code>                      | 165     |
| removed <code>\@sACRshortpl</code>                   | 164     |
| removed <code>\@sAcrshortpl</code>                   | 164     |
| removed <code>\@sacrshortpl</code>                   | 163     |
| removed <code>\@sACRshort</code>                     | 162     |
| removed <code>\@sAcrshort</code>                     | 162     |
| removed <code>\@sacrshort</code>                     | 161     |
| removed <code>\@gls@link</code>                      | 125     |
| removed <code>\@sGLSdescplural</code>                | 153     |
| removed <code>\@sGLsdescplural</code>                | 153     |
| removed <code>\@sglsdescplural</code>                | 152     |
| removed <code>\@sGLSdesc</code>                      | 152     |
| removed <code>\@sGLsdesc</code>                      | 152     |
| removed <code>\@sglsdesc</code>                      | 151     |
| removed <code>\@sglsdisp</code>                      | 145     |
| removed <code>\@sGLSfirstplural</code>               | 150     |
| removed <code>\@sGLsfirstplural</code>               | 150     |
| removed <code>\@sglsfirstplural</code>               | 149     |
| removed <code>\@sGLSfirst</code>                     | 148     |
| removed <code>\@sGLsfirst</code>                     | 148     |
| removed <code>\@sglsfirst</code>                     | 147     |
| removed <code>\@sGLSname</code>                      | 151     |
| removed <code>\@sGLsname</code>                      | 151     |
| removed <code>\@sglsname</code>                      | 150     |
| removed <code>\@sGLSplural</code>                    | 149     |
| removed <code>\@sGLsplural</code>                    | 149     |
| removed <code>\@sglsplural</code>                    | 148     |
| removed <code>\@sGLSpl</code>                        | 144     |
| removed <code>\@sGLspl</code>                        | 143     |
| removed <code>\@sglspl</code>                        | 143     |
| removed <code>\@sGLSsymbolplural</code>              | 155     |
| removed <code>\@sGLssymbolplural</code>              | 155     |
| removed <code>\@sglssymbolplural</code>              | 154     |
| removed <code>\@sGLSsymbol</code>                    | 154     |
| removed <code>\@sGLssymbol</code>                    | 154     |
| removed <code>\@sglssymbol</code>                    | 153     |
| removed <code>\@sGLStext</code>                      | 147     |
| removed <code>\@sGlstext</code>                      | 147     |
| removed <code>\@sglstext</code>                      | 146     |
| removed <code>\@sGLSuseriii</code>                   | 158     |
| removed <code>\@sGlsuseriii</code>                   | 158     |
| removed <code>\@sglsuseriii</code>                   | 157     |
| removed <code>\@sGLSuserii</code>                    | 157     |
| removed <code>\@sGlsuserii</code>                    | 157     |
| removed <code>\@sglsuserii</code>                    | 156     |
| removed <code>\@sGLSuseriv</code>                    | 159     |
| removed <code>\@sGlsuseriv</code>                    | 159     |
| removed <code>\@sglsuseriv</code>                    | 158     |
| removed <code>\@sGLSuseri</code>                     | 156     |
| removed <code>\@sGlsuseri</code>                     | 156     |
| removed <code>\@sglsuseri</code>                     | 155     |
| removed <code>\@sGLSuservi</code>                    | 161     |
| removed <code>\@sGlsuservi</code>                    | 161     |
| removed <code>\@sglsuservi</code>                    | 160     |
| removed <code>\@sGLSuserv</code>                     | 160     |
| removed <code>\@sGlsuserv</code>                     | 160     |
| removed <code>\@sglsuserv</code>                     | 159     |
| removed <code>\@sGLS</code>                          | 142     |
| removed <code>\@sGls</code>                          | 141     |
| removed <code>\@sgls</code>                          | 140     |
| removed <code>\@thirdofthree</code>                  |         |
| (defined in kernel)                                  | 140     |
| removed <code>sPGLS</code>                           | 342     |
| removed <code>sPgls</code>                           | 340     |
| removed <code>spgls</code>                           | 339     |
| removed <code>sPGLSpl</code>                         | 342     |
| removed <code>sPglspl</code>                         | 341     |
| removed <code>spglspl</code>                         | 340     |
| <code>\@ACRlong</code> : added                       |         |
| <code>\do@gls@link@checkfirsthyper</code>            | 364     |
| <code>\@ACRshort</code> : added                      |         |
| <code>\do@gls@link@checkfirsthyper</code>            | 363     |
| <code>\@Acrlong</code> : added                       |         |
| <code>\do@gls@link@checkfirsthyper</code>            | 363     |
| <code>\@Acrshort</code> : added                      |         |
| <code>\do@gls@link@checkfirsthyper</code>            | 362     |
| <code>\@GLS@</code> : moved <code>\glsifhyper</code> | 142     |
| moved check for first use to                         |         |
| <code>\@gls@link</code>                              | 142     |

|                               |     |                                |     |
|-------------------------------|-----|--------------------------------|-----|
| \@GLSp1: moved \glsifhyper .. | 145 | \ACRfullpl: removed            |     |
| moved check for first use to  |     | \s@ACRfullpl .....             | 253 |
| \@gls@link .....              | 145 | switched to using              |     |
| \@Gls0: moved \glsifhyper ... | 141 | \@gls@hyp@opt .....            | 253 |
| moved check for first use to  |     | \Acrfullpl: removed            |     |
| \@gls@link .....              | 141 | \s@Acrfullpl .....             | 253 |
| \@Glspl0: moved \glsifhyper . | 144 | switched to using              |     |
| moved check for first use to  |     | \@gls@hyp@opt .....            | 253 |
| \@gls@link .....              | 144 | \acrfullpl: removed            |     |
| \@acrlong: added              |     | \s@acrfullpl .....             | 252 |
| \do@gls@link@checkfirsthyper  |     | switched to using              |     |
| .....                         | 363 | \@gls@hyp@opt .....            | 252 |
| \@acrshort: added             |     | \ACRlong: switched to using    |     |
| \do@gls@link@checkfirsthyper  |     | \@gls@hyp@opt .....            | 166 |
| .....                         | 362 | \Acrlong: switched to using    |     |
| \@closegls: new .....         | 194 | \@gls@hyp@opt .....            | 166 |
| \@gls0: moved \glsifhyper ... | 141 | \acrlong: switched to using    |     |
| moved check for first use to  |     | \@gls@hyp@opt .....            | 165 |
| \@gls@link .....              | 141 | \ACRlongpl: switched to using  |     |
| \@gls@automake: new .....     | 194 | \@gls@hyp@opt .....            | 168 |
| \@gls@doautomake: new .....   | 37  | \Acrlongpl: switched to using  |     |
| \@gls@field@link: added       |     | \@gls@hyp@opt .....            | 168 |
| assignment of                 |     | \acrlongpl: switched to using  |     |
| \do@gls@link@checkfirsthyper  |     | \@gls@hyp@opt .....            | 167 |
| .....                         | 146 | \ACRshort: switched to using   |     |
| \@gls@forbidtextext: new .... | 74  | \@gls@hyp@opt .....            | 162 |
| \@gls@hyp@opt: new .....      | 124 | \Acrshort: switched to using   |     |
| \@gls@link: removed           |     | \@gls@hyp@opt .....            | 162 |
| redundancy .....              | 127 | \acrshort: switched to using   |     |
| renamed \gls@type to          |     | \@gls@hyp@opt .....            | 161 |
| \glstype .....                | 127 | \ACRshortpl: switched to using |     |
| \@gls@link@checkfirsthyper:   |     | \@gls@hyp@opt .....            | 164 |
| new .....                     | 126 | \Acrshortpl: switched to using |     |
| \@glsdisp: moved \glsifhyper  | 145 | \@gls@hyp@opt .....            | 164 |
| moved check for first use to  |     | \acrshortpl: switched to using |     |
| \@gls@link .....              | 145 | \@gls@hyp@opt .....            | 163 |
| \@glspl0: moved \glsifhyper . | 143 | altlongragged4col: fixed bug   |     |
| moved check for first use to  |     | that displayed description     |     |
| \@gls@link .....              | 143 | instead of symbol .....        | 304 |
| \@ignored@glossaries: new ..  | 78  | automake: new .....            | 37  |
| \ACRfull: removed \s@ACRfull  | 252 | \forallacronyms: new .....     | 67  |
| switched to using             |     | \GLS: switched to using        |     |
| \@gls@hyp@opt .....           | 252 | \@gls@hyp@opt .....            | 142 |
| \Acrfull: removed \s@Acrfull  | 252 | \Gls: switched to using        |     |
| switched to using             |     | \@gls@hyp@opt .....            | 141 |
| \@gls@hyp@opt .....           | 252 | \gls: switched to using        |     |
| \acrfull: removed \s@acrfull  | 251 | \@gls@hyp@opt .....            | 140 |
| switched to using             |     | \gls@defglossaryentry: added   |     |
| \@gls@hyp@opt .....           | 251 | check for ignored glossary .   | 100 |
|                               |     | \gls@istfilebase: new .....    | 51  |

|                                     |        |                                |     |
|-------------------------------------|--------|--------------------------------|-----|
| \glsaddkey: removed                 |        | \glsname: switched to using    |     |
| \@sGLS@user@ <i>key</i> ) . . . . . | 93     | \@gls@hyp@opt . . . . .        | 150 |
| removed \@sGls@user@ <i>key</i> )   | 93     | \GLSpl: switched to using      |     |
| removed \@sgls@user@ <i>key</i> )   | 92     | \@gls@hyp@opt . . . . .        | 144 |
| switched to using                   |        | \Glspl: switched to using      |     |
| \@gls@hyp@opt . . . . .             | 92, 93 | \@gls@hyp@opt . . . . .        | 143 |
| \GLSdesc: switched to using         |        | \glspl: switched to using      |     |
| \@gls@hyp@opt . . . . .             | 152    | \@gls@hyp@opt . . . . .        | 142 |
| \Glsdesc: switched to using         |        | \GLSplural: switched to using  |     |
| \@gls@hyp@opt . . . . .             | 151    | \@gls@hyp@opt . . . . .        | 149 |
| \glsdesc: switched to using         |        | \Glsplural: switched to using  |     |
| \@gls@hyp@opt . . . . .             | 151    | \@gls@hyp@opt . . . . .        | 148 |
| \GLSdescplural: switched to         |        | \glsplural: switched to using  |     |
| using \@gls@hyp@opt . . . . .       | 153    | \@gls@hyp@opt . . . . .        | 148 |
| \Glsdescplural: switched to         |        | \glspace: new . . . . .        | 250 |
| using \@gls@hyp@opt . . . . .       | 152    | \GLSsymbol: switched to using  |     |
| \glsdescplural: switched to         |        | \@gls@hyp@opt . . . . .        | 154 |
| using \@gls@hyp@opt . . . . .       | 152    | \Glsymbol: switched to using   |     |
| \glsdisablehyper: added             |        | \@gls@hyp@opt . . . . .        | 153 |
| \KV@glslink@hyperfalse to           |        | \glsymbol: switched to using   |     |
| definition . . . . .                | 139    | \@gls@hyp@opt . . . . .        | 153 |
| \glsdisp: switched to using         |        | \GLSsymbolplural: switched to  |     |
| \@gls@hyp@opt . . . . .             | 145    | using \@gls@hyp@opt . . . . .  | 155 |
| \glsdohyperlink: new . . . . .      | 139    | \Glsymbolplural: switched to   |     |
| \glsdohypertarget: new . . . . .    | 137    | using \@gls@hyp@opt . . . . .  | 154 |
| \glsenablehyper: added              |        | \glsymbolplural: switched to   |     |
| \KV@glslink@hypertrue to            |        | using \@gls@hyp@opt . . . . .  | 154 |
| definition . . . . .                | 140    | \GLStext: switched to using    |     |
| \GLSfirst: switched to using        |        | \@gls@hyp@opt . . . . .        | 146 |
| \@gls@hyp@opt . . . . .             | 148    | \Glstext: switched to using    |     |
| \Glsfirst: switched to using        |        | \@gls@hyp@opt . . . . .        | 147 |
| \@gls@hyp@opt . . . . .             | 147    | \glstext: switched to using    |     |
| \glsfirst: switched to using        |        | \@gls@hyp@opt . . . . .        | 146 |
| \@gls@hyp@opt . . . . .             | 147    | \glstreenamefmt: new . . . . . | 325 |
| \GLSfirstplural: switched to        |        | \GLSuseri: switched to using   |     |
| using \@gls@hyp@opt . . . . .       | 150    | \@gls@hyp@opt . . . . .        | 156 |
| \Glsfirstplural: switched to        |        | \Glsuseri: switched to using   |     |
| using \@gls@hyp@opt . . . . .       | 149    | \@gls@hyp@opt . . . . .        | 155 |
| \glsfirstplural: switched to        |        | \glsuseri: switched to using   |     |
| using \@gls@hyp@opt . . . . .       | 149    | \@gls@hyp@opt . . . . .        | 155 |
| \glsifhyper: deprecated . . . . .   | 124    | \GLSuserii: switched to using  |     |
| \glslink: switched to using         |        | \@gls@hyp@opt . . . . .        | 157 |
| \@gls@hyp@opt . . . . .             | 125    | \Glsuserii: switched to using  |     |
| \glslinkcheckfirsthyperhook:        |        | \@gls@hyp@opt . . . . .        | 156 |
| new . . . . .                       | 126    | \glsuserii: switched to using  |     |
| \glslinkvar: new . . . . .          | 124    | \@gls@hyp@opt . . . . .        | 156 |
| \GLSname: switched to using         |        | \GLSuseriii: switched to using |     |
| \@gls@hyp@opt . . . . .             | 151    | \@gls@hyp@opt . . . . .        | 158 |
| \Glsname: switched to using         |        | \Glsuseriii: switched to using |     |
| \@gls@hyp@opt . . . . .             | 150    | \@gls@hyp@opt . . . . .        | 157 |



|                                |     |                                   |               |
|--------------------------------|-----|-----------------------------------|---------------|
| \glsuseriii: switched to using |     | \@gls@glossary: Renamed           |               |
| \@gls@hyp@opt                  | 157 | \@glossary to                     |               |
| \GLSuseriv: switched to using  |     | \@gls@glossary                    | 205           |
| \@gls@hyp@opt                  | 159 | alttree: moved space after        |               |
| \Glsuseriv: switched to using  |     | symbol                            | 332, 333      |
| \@gls@hyp@opt                  | 158 | \glspercentchar: new              | 183           |
| \glsuseriv: switched to using  |     | \glstildechar: new                | 183           |
| \@gls@hyp@opt                  | 158 | 4.11 – 2014-09-01                 |               |
| \GLSuserv: switched to using   |     | \@do@esc@wrglossary: added        |               |
| \@gls@hyp@opt                  | 160 | hook                              | 211           |
| \Glsuserv: switched to using   |     | \gls@wrglossary: renamed from     |               |
| \@gls@hyp@opt                  | 159 | \@wrglossary to                   |               |
| \glsuserv: switched to using   |     | \gls@wrglossary                   | 206           |
| \@gls@hyp@opt                  | 159 | \glsaddprotectedpagefmt: new      | 208           |
| \GLSuservi: switched to using  |     | \glsbackslash: new                | 182           |
| \@gls@hyp@opt                  | 161 | sanitize: none option             | 29            |
| \Glsuservi: switched to using  |     | 4.12 – 2014-11-22                 |               |
| \@gls@hyp@opt                  | 160 | \@gls@addpredefinedattributes:    |               |
| \glsuservi: switched to using  |     | Added glsignore attribute         | 61            |
| \@gls@hyp@opt                  | 160 | \@gls@adjustmode: new             | 181           |
| \ifignoredglossary: new        | 78  | \@gls@notranslatorhook:           |               |
| \newglossary: added starred    |     | removed                           | 29            |
| version                        | 75  | \@gls@toc: added \protect to      |               |
| \newignoredglossary: new       | 77  | \numberline                       | 57            |
| \ns@newglossary: added         |     | \@gls@usetranslator: new          | 29            |
| \@glotype@{ <i>name</i> }@log  | 76  | \glsacrpluralsuffix: new          | 48            |
| new                            | 75  | \glsadd: added check for vertical |               |
| \p@gls@hyp@opt: new            | 125 | mode                              | 181           |
| \PGLS: changed to use          |     | \glsaddallunused: replaced        |               |
| \@gls@hyp@opt                  | 342 | @gobble with glsignore            | 182           |
| \Pgls: changed to use          |     | \glsifusedtranslatordict: new     | 29            |
| \@gls@hyp@opt                  | 340 | \glsignore: new                   | 182           |
| \pgls: changed to use          |     | \glsupacrpluralsuffix: new        | 48            |
| \@gls@hyp@opt                  | 339 | \ProvidesGlossariesLang: new      | 48            |
| \PGLSpl: changed to use        |     | \RequireGlossariesLang: new       | 48            |
| \@gls@hyp@opt                  | 342 | 4.13 – 2015-02-03                 |               |
| \Pglspl: changed to use        |     | \indexspace: new                  | 285, 306, 325 |
| \@gls@hyp@opt                  | 341 | 4.14 – 2015-02-28                 |               |
| \pglspl: changed to use        |     | \@@glslocalreset: new             | 110           |
| \@gls@hyp@opt                  | 340 | \@@glslocalunset: new             | 109           |
| \s@gls@hyp@opt: new            | 124 | \@@glsreset: new                  | 110           |
| \s@newglossary: new            | 75  | \@@glsunset: new                  | 110           |
| 4.09 – 2014-08-12              |     | \@@newglossaryentry@defcounters:  |               |
| \glsaddkey: fixed bug in user  |     | new                               | 111           |
| commands                       | 92  | \@cGls: new                       | 115           |
| 4.10 – 2014-08-27              |     | \@cGls@: new                      | 115           |
| \@Gls@acrentryname: new        | 171 | \@cGlspl@: new                    | 116           |
| \@Gls@entryname: new           | 171 | \@cgls: new                       | 114           |
|                                |     | \@cgls@: new                      | 114           |
|                                |     | \@cglspl: new                     | 115, 116      |

|                                  |         |                                 |     |
|----------------------------------|---------|---------------------------------|-----|
| \cglspl@: new                    | 115     | \@GLSpl: added                  |     |
| \@gls@entry@count: new           | 114     | \glspostlinkhook                | 145 |
| \@gls@increment@currcount:       |         | \@Gls@: added                   |     |
| new                              | 113     | \glspostlinkhook                | 142 |
| \@gls@local@increment@currcount: |         | \@GLspl@: added                 |     |
| new                              | 113     | \glspostlinkhook                | 144 |
| \@gls@write@entrycounts: new     | 114     | \@acrlong: added                |     |
| \@glslocalreset: new             | 110     | \glspostlinkhook                | 363 |
| \@glslocalunset: new             | 109     | \@acrshort: added               |     |
| \@glsreset: new                  | 110     | \glspostlinkhook                | 362 |
| \@glsunset: new                  | 109     | \@gls@: added                   |     |
| \@newglossaryentry@defcounters:  |         | \glspostlinkhook                | 141 |
| new                              | 104     | \@gls@@link: added              |     |
| \cGls: new                       | 115     | \glspostlinkhook                | 125 |
| \cgl: new                        | 114     | \@gls@field@link: added         |     |
| \cGlsformat: new                 | 115     | \glspostlinkhook                | 146 |
| \cglformat: new                  | 114     | \@gls@link: moved definition of |     |
| \cGLspl: new                     | 116     | \glsifhyperon outside of this   |     |
| \cglspl: new                     | 115     | macro                           | 127 |
| \cGLsplformat: new               | 116     | \@glsdisp: added                |     |
| \cglsplformat: new               | 116     | \glspostlinkhook                | 145 |
| \gls@defdocnewglossaryentry:     |         | \@GLspl@: added                 |     |
| new                              | 86      | \glspostlinkhook                | 143 |
| \glsenableentrycount: new        | 111     | \glsacspace: new                | 258 |
| \glslocalreset: switched to      |         | \glsadd: changed                |     |
| \@glslocalreset                  | 109     | \@do@wrglossary to              |     |
| \glslocalunset: switched to      |         | \@do@wrglossary                 | 181 |
| \@glslocalunset                  | 109     | \glsfielddef: new               | 95  |
| \glsreset: switched to           |         | \glsfieldedef: new              | 94  |
| \@glsreset                       | 108     | \glsfieldfetch: new             | 95  |
| \glsunset: switched to           |         | \glsfieldgdef: new              | 95  |
| \@glsunset                       | 109     | \glsfieldxdef: new              | 94  |
| 4.15 – 2015-03-16                |         | \glsifhyperon: moved definition |     |
| General: bug fix replaced        |         | of \glsifhyperon                | 126 |
| \@glo@type with \glstype         | 168     | \glslinkpostsetkeys: new        | 126 |
| 4.16 – 2015-06-18                |         | \glspostlinkhook: new           | 126 |
| \glsaddstoragekey: new           | 91      | \glswriteentry: new             | 206 |
| 4.16 – 2015-07-08                |         | \ifglsfieldcseq: new            | 97  |
| General: added                   |         | \ifglsfielddefeq: new           | 96  |
| \glspostlinkhook                 | 162–169 | \ifglsfieldeq: new              | 96  |
| \@ACRlong: added                 |         | long-sp-short: new              | 257 |
| \glspostlinkhook                 | 364     | long-sp-short-desc: new         | 260 |
| \@ACRshort: added                |         | \showglofield: new              | 276 |
| \glspostlinkhook                 | 363     | 4.18 – 2015-09-09               |     |
| \@Acrlong: added                 |         | General: split mfirstuc into    |     |
| \glspostlinkhook                 | 364     | separate bundle                 | 4   |
| \@Acrshort: added                |         | 4.19 – 2015-10-31               |     |
| \glspostlinkhook                 | 363     | \glstreenamebox: new            | 331 |
| \@GLS@: added                    |         |                                 |     |
| \glspostlinkhook                 | 142     |                                 |     |

|                                    |         |                                  |        |
|------------------------------------|---------|----------------------------------|--------|
| 4.19 – 2015-11-22                  |         |                                  |        |
| \@gls@link@nocheckfirsthyper:      |         | \glsentrytitlecase: new          | 175    |
| new                                | 146     | \glsfindwidesttoplevelname:      |        |
| \@gls@preglossaryhook: new         | 218     | new                              | 331    |
| \@printglossary: added             |         | \glslistgroupheaderfmt: new      | 285    |
| \@gls@preglossaryhook              | 219     | \glslistnavigationitem: new      | 285    |
| \do@glsdisablehyperinlist:         |         | \glstreegroupheaderfmt: new      | 325    |
| new                                | 126     | \glstreenavigationfmt: new       | 325    |
| \doifglossarynoexistsordo:         |         | \ifglswrallowprimitivemods:      |        |
| new                                | 70      | new                              | 209    |
| \gls@gobbleopt: new                | 75      | list: fixed missing space before |        |
| \glsdoifexistsordo: new            | 69      | description                      | 286    |
| 4.20 – 2015-11-30                  |         | long: fixed typo in              |        |
| \@gls@link: added                  |         | \glossentrydesc                  | 289    |
| \@gls@setdefault@glslink@opts      | 127     | mcolalttreespannav: new          | 311    |
| added \glsdonohyperlink            |         | mcolindexspannav: new            | 307    |
| when hyperlink is suppressed       | 127     | mcoltreenonamespannav: new       | 309    |
| \@gls@setdefault@glslink@opts:     |         | mcoltreespannav: new             | 308    |
| new                                | 126     | super4col: fixed bug in          |        |
| \gls@checkseeallowed@preambleonly: |         | \glossentry                      | 316    |
| new                                | 81      | 4.23 – 2016-04-30                |        |
| \glsdonohyperlink: new             | 139     | altlongragged4col: check for     |        |
| 4.21 – 2016-01-24                  |         | nogroupskip changed              | 304    |
| General: changed checkfirsthyper   |         | altsuperragged4col: check for    |        |
| assignment                         | 161–169 | nogroupskip changed              | 323    |
| \@printglossary: warn if no        |         | \glscurrentfieldvalue: new       | 73     |
| style has been set                 | 218     | \ifglshasfield: added            |        |
| altlong4col-booktabs: new          | 297     | \glscurrentfieldvalue            | 72, 73 |
| altlongragged4col-booktabs:        |         | long: check for nogroupskip      |        |
| new                                | 298     | changed                          | 290    |
| \glsLTpenaltycheck: new            | 299     | long-booktabs: check for         |        |
| \glspatchLOutput: new              | 299     | nogroupskip changed              | 296    |
| \glspenaltygroupskip: new          | 299     | long3col: check for nogroupskip  |        |
| long-booktabs: new                 | 295     | changed                          | 291    |
| long3col-booktabs: new             | 296     | long3col-booktabs: check for     |        |
| long4col-booktabs: new             | 296     | nogroupskip changed              | 296    |
| longragged-booktabs: new           | 297     | long4col: check for nogroupskip  |        |
| longragged3col-booktabs: new       | 298     | changed                          | 293    |
| \setglossarystyle: set default     |         | long4col-booktabs: check for     |        |
| style if not already set           | 244     | nogroupskip changed              | 297    |
| 4.22 – 2016-04-19                  |         | longragged: check for            |        |
| \@@do@esc@wrglossary: added        |         | nogroupskip changed              | 301    |
| check for \@arabic                 | 211     | longragged3col: check for        |        |
| added test to allow temporary      |         | nogroupskip changed              | 302    |
| primitive modifications and        |         | super: check for nogroupskip     |        |
| added arabic case                  | 211     | changed                          | 312    |
| \gls@arabicpage: new               | 207     | super3col: check for nogroupskip |        |
| \gls@protected@pagefmts:           |         | changed                          | 314    |
| added arabic to list               | 207     | super4col: check for nogroupskip |        |
|                                    |         | changed                          | 316    |

|                                                                                                  |     |                                                                      |     |
|--------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------|-----|
| superragged: check for<br>nogroupskip changed . . . . .                                          | 320 | outside of theglossary<br>environment . . . . .                      | 230 |
| superragged3col: check for<br>nogroupskip changed . . . . .                                      | 322 | \glsnavhyperlinkname: new . . . . .                                  | 279 |
| 4.24 – 2016-05-27                                                                                |     | 4.30 – 2017-06-11                                                    |     |
| \@gls@extramakeindexopts:<br>new . . . . .                                                       | 193 | \@glo@autosee: new . . . . .                                         | 103 |
| \@gls@glossary: added check for<br>debug mode . . . . .                                          | 205 | \@glo@autoseehook: new . . . . .                                     | 104 |
| \@gls@see@noindex: new . . . . .                                                                 | 9   | \@glo@check@sortallowed: new . . . . .                               | 16  |
| debug: new . . . . .                                                                             | 7   | \@gls@noidx@do: letter group<br>assignment made global . . . . .     | 232 |
| \glsnomakeindexwarning: new . . . . .                                                            | 57  | \@gls@setupsort@def: added<br>check for register . . . . .           | 17  |
| \GlsSetQuote: new . . . . .                                                                      | 190 | \@gls@setupsort@none: new . . . . .                                  | 18  |
| \GlsSetWriteIstHook: new . . . . .                                                               | 190 | \@xdycrossrefhook: new . . . . .                                     | 63  |
| seenindex: new . . . . .                                                                         | 9   | \@xdylocationclassorder: bug<br>fix: changed \edef to \def . . . . . | 63  |
| 4.25 – 2016-06-09                                                                                |     | \glosortentrieswarning: new . . . . .                                | 23  |
| General: changed                                                                                 |     | \gls@set@xr@key: new . . . . .                                       | 80  |
| \DeclareRobustCommand to<br>\newrobustcmd and changed<br>\ifundefined to<br>\ifcsundef . . . . . | 356 | \gls@xr@key: new . . . . .                                           | 81  |
| \@gls@enablesavenonumberlist:<br>new . . . . .                                                   | 82  | \GlsAddXdyLocation: bug fix:<br>changed #1 to #2 . . . . .           | 63  |
| \@gls@initnnonumberlist: new . . . . .                                                           | 82  | \glsnoidxstripaccents: added<br>\a . . . . .                         | 26  |
| \@gls@savenonumberlist: new . . . . .                                                            | 82  | added \TH, \dh and \DH . . . . .                                     | 27  |
| 4.26 – 2016-10-12                                                                                |     | 4.31 – 2017-08-10                                                    |     |
| \@glossary@default@style:<br>added check for classicthesis . . . . .                             | 11  | nolist: added check for “list”<br>style . . . . .                    | 13  |
| \glstreechildpredesc: new . . . . .                                                              | 326 | 4.31 – 2017-09-10                                                    |     |
| \glstreeitem: new . . . . .                                                                      | 326 | style: changed \renewcommand to<br>\def . . . . .                    | 11  |
| \glstreepredesc: new . . . . .                                                                   | 326 | 4.32 – 2017-08-24                                                    |     |
| \glstreesubitem: new . . . . .                                                                   | 326 | \@glsnavhypertarget: new . . . . .                                   | 280 |
| \glstreesubsubitem: new . . . . .                                                                | 326 | \@glsshowtarget: new . . . . .                                       | 8   |
| mcolindex: replaced \@idxitem<br>with \glstreeitem . . . . .                                     | 306 | \glsshowtarget: new . . . . .                                        | 8   |
| mcolindexspannav: replaced<br>\@idxitem with<br>\glstreeitem . . . . .                           | 307 | 4.33 – 2017-09-20                                                    |     |
| 4.28 – 2017-01-07                                                                                |     | \@do@esc@wrglossary: added<br>\gls@the and \gls@number . . . . .     | 211 |
| \glspatchtabularx: new . . . . .                                                                 | 108 | renamed from<br>\@do@esc@wrglossary . . . . .                        | 209 |
| 4.29 – 2017-01-19                                                                                |     | \@do@noesc@wrglossary: new . . . . .                                 | 209 |
| General: added check for<br>\@gls@xtr@doaccsupp . . . . .                                        | 344 | \@do@wrglossary: changed to<br>check for eslocations . . . . .       | 208 |
| \@gls@noidx@do: current letter<br>group assignment made<br>global . . . . .                      | 233 | \@gls@missinglang@warn: new . . . . .                                | 23  |
| \@print@noidx@glossary: moved<br>definition of<br>\@gls@currentlettergroup                       |     | eslocations: new . . . . .                                           | 12  |
|                                                                                                  |     | \GlsSetXdyFirstLetterAfterDigits:<br>added starred version . . . . . | 183 |
|                                                                                                  |     | \GlsSetXdyNumberGroupOrder:<br>new . . . . .                         | 183 |

|                                                                                                                                  |     |                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.34 – 2017-11-03                                                                                                                |     |                                                                                                                                                                                       |
| <code>\glsshowtarget</code> : modified to<br>check for math mode and<br>inner . . . . .                                          | 8   |                                                                                                                                                                                       |
| <code>mcolaltreespannav</code> : removed<br>spurious space . . . . .                                                             | 311 |                                                                                                                                                                                       |
| 4.35 – 2017-11-14                                                                                                                |     |                                                                                                                                                                                       |
| <code>\glsadd</code> : added <code>\@gls@setsort</code><br>(in case of <code>sort=use</code> ) . . . . .                         | 181 |                                                                                                                                                                                       |
| 4.36 – 2018-03-07                                                                                                                |     |                                                                                                                                                                                       |
| <code>\@gls@glossary</code> : removed<br><code>\index</code> . . . . .                                                           | 205 |                                                                                                                                                                                       |
| 4.37 – 2018-04-07                                                                                                                |     |                                                                                                                                                                                       |
| <code>\gls@begindocdefs</code> : new . . . . .                                                                                   | 88  |                                                                                                                                                                                       |
| 4.38 – 2018-05-10                                                                                                                |     |                                                                                                                                                                                       |
| <code>\@gls@define@glossaryentrycounter</code> :<br>added check for existence of<br>glossaryentry counter . . . . .              | 14  |                                                                                                                                                                                       |
| new . . . . .                                                                                                                    | 14  |                                                                                                                                                                                       |
| <code>\@gls@define@glossarysubentrycounter</code> :<br>new . . . . .                                                             | 15  |                                                                                                                                                                                       |
| prepended <code>\currentglossary.</code><br>to <code>\theHglossarysubentry</code><br>and removed spurious eol<br>space . . . . . | 15  |                                                                                                                                                                                       |
| <code>\glsaccsupp</code> : added braces<br>around actual text argument . . . . .                                                 | 353 |                                                                                                                                                                                       |
| <code>\glsentrycounterlabel</code> : bug fix:<br>move conditional inside<br>command . . . . .                                    | 238 |                                                                                                                                                                                       |
| <code>\GlsEntryCounterLabelPrefix</code> :<br>new . . . . .                                                                      | 236 |                                                                                                                                                                                       |
| <code>\glsentryitem</code> : bug fix: move<br>conditional inside command . . . . .                                               | 238 |                                                                                                                                                                                       |
| <code>\glsrefentry</code> : bug fix: move<br>conditional inside command . . . . .                                                | 238 |                                                                                                                                                                                       |
| <code>\glsresetentrycounter</code> : bug fix:<br>move conditional inside<br>command . . . . .                                    | 237 |                                                                                                                                                                                       |
| <code>\glsresetsubentrycounter</code> : bug<br>fix: move conditional inside<br>command . . . . .                                 | 237 |                                                                                                                                                                                       |
| <code>\glsstepentry</code> : bug fix: move<br>conditional inside command . . . . .                                               | 238 |                                                                                                                                                                                       |
| <code>\glsstepsubentry</code> : bug fix: move<br>conditional inside command . . . . .                                            | 238 |                                                                                                                                                                                       |
| <code>\glssubentrycounterlabel</code> : bug<br>fix: move conditional inside<br>command . . . . .                                 | 238 |                                                                                                                                                                                       |
|                                                                                                                                  |     | <code>\glssubentryitem</code> : bug fix: move<br>conditional inside command . . . . .                                                                                                 |
|                                                                                                                                  |     | <code>\showglnonameaccess</code> : bug fix:<br>corrected field (was showing<br>text access field) . . . . .                                                                           |
|                                                                                                                                  |     | 4.40 – 2018-06-01                                                                                                                                                                     |
|                                                                                                                                  |     | <code>\istfile</code> : changed <code>\def</code> to<br><code>\providecommand</code> . . . . .                                                                                        |
|                                                                                                                                  |     | <code>\makenoidxglossaries</code> : false . . . . .                                                                                                                                   |
|                                                                                                                                  |     | 4.41 – 2018-07-23                                                                                                                                                                     |
|                                                                                                                                  |     | General: changed <code>\val</code> and <code>\nr</code> to<br><code>\gls@numberedsection@val</code><br>and<br><code>\gls@numberedsection@nr</code> . . . . .                          |
|                                                                                                                                  |     | <code>\@gls@override@glossary</code> : new . . . . .                                                                                                                                  |
|                                                                                                                                  |     | debug: changed <code>\val</code> and <code>\nr</code> to<br><code>\gls@debug@val</code> and<br><code>\gls@debug@nr</code> . . . . .                                                   |
|                                                                                                                                  |     | <code>\glossary</code> : added warning . . . . .                                                                                                                                      |
|                                                                                                                                  |     | <code>\gls@original@glossary</code> : new . . . . .                                                                                                                                   |
|                                                                                                                                  |     | <code>\gls@original@makeglossary</code> :<br>new . . . . .                                                                                                                            |
|                                                                                                                                  |     | <code>kernelglossredefs</code> : new . . . . .                                                                                                                                        |
|                                                                                                                                  |     | <code>\makeglossaries</code> : removed<br>redefinition of<br><code>\makeglossary</code> . . . . .                                                                                     |
|                                                                                                                                  |     | <code>\makeglossary</code> : added warning . . . . .                                                                                                                                  |
|                                                                                                                                  |     | <code>nonumberlist</code> : changed <code>\val</code> and<br><code>\nr</code> to<br><code>\gls@nonumberlist@val</code> and<br><code>\gls@nonumberlist@nr</code> . . . . .             |
|                                                                                                                                  |     | <code>numberedsection</code> : changed <code>\val</code><br>and <code>\nr</code> to<br><code>\gls@numberedsection@val</code><br>and<br><code>\gls@numberedsection@nr</code> . . . . . |
|                                                                                                                                  |     | <code>seenoinde</code> : changed <code>\val</code> and<br><code>\nr</code> to <code>\gls@seenoinde@val</code><br>and <code>\gls@seenoinde@nr</code> . . . . .                         |
|                                                                                                                                  |     | <code>translate</code> : changed <code>\val</code> and <code>\nr</code><br>to <code>\gls@translate@val</code> and<br><code>\gls@translate@nr</code> . . . . .                         |
|                                                                                                                                  |     | 4.42 – 2019-01-06                                                                                                                                                                     |
|                                                                                                                                  |     | <code>\@gls@@automake@immediate</code> :<br>new . . . . .                                                                                                                             |
|                                                                                                                                  |     | <code>\@gls@automake@immediate</code> :<br>new . . . . .                                                                                                                              |
|                                                                                                                                  |     | <code>altlong4col-booktabs</code> : removed<br>superfluous<br><code>\glspatchLOutput</code> . . . . .                                                                                 |

|                                                                                 |     |                                                           |     |
|---------------------------------------------------------------------------------|-----|-----------------------------------------------------------|-----|
| automake: switch from boolean to choice . . . . .                               | 37  | \@GLSuserv@: added accessibility support . . . . .        | 369 |
| \gls@automake@nr: new . . . . .                                                 | 36  | \@GLSuserii@: added accessibility support . . . . .       | 369 |
| \glsfielddedef: changed from \edef to \protected@csedef . . . . .               | 94  | \@GLSdesc@: added accessibility support . . . . .         | 366 |
| \glsfieldxdef: changed from \edef to \protected@csxdef . . . . .                | 94  | \@GLSdescplural@: added accessibility support . . . . .   | 366 |
| \ifglsautomake: now defined explicitly instead of through boolean key . . . . . | 36  | \@GLSfirst@: added accessibility support . . . . .        | 365 |
| noglossaryindex: new . . . . .                                                  | 41  | \@GLSfirstplural@: added accessibility support . . . . .  | 365 |
| 4.43 – 2019-09-28                                                               |     | \@GLSname@: added accessibility support . . . . .         | 366 |
| \glsnoidxstripaccents: add check for LaTeX version 2019/10/01 . . . . .         | 27  | \@GLSplural@: added accessibility support . . . . .       | 365 |
| 4.44 – 2019-12-06                                                               |     | \@GLSsymbol@: added accessibility support . . . . .       | 367 |
| \glsprefix@record@hook: new . . . . .                                           | 339 | \@GLSsymbolplural@: added accessibility support . . . . . | 367 |
| 4.45 – 2020-02-13                                                               |     | \@GLStext@: added accessibility support . . . . .         | 364 |
| General: removed backward compatibility use of symbol key . . . . .             | 347 | \@GLSuseri@: added accessibility support . . . . .        | 367 |
| \@do@write@glslabels: new . . . . .                                             | 35  | \@GLSuseriii@: added accessibility support . . . . .      | 368 |
| \@glsshowtarget: new . . . . .                                                  | 8   | \@GLSuseriv@: added accessibility support . . . . .       | 368 |
| \@GLSdesc@: added accessibility support . . . . .                               | 366 | \@GLSuserv@: added accessibility support . . . . .        | 369 |
| \@GLSdescplural@: added accessibility support . . . . .                         | 366 | \@GLSuserii@: added accessibility support . . . . .       | 368 |
| \@GLSfirst@: added accessibility support . . . . .                              | 365 | \@GLSsymbol@: added accessibility support . . . . .       | 367 |
| \@GLSfirstplural@: added accessibility support . . . . .                        | 365 | \@GLSsymbolplural@: added accessibility support . . . . . | 367 |
| \@GLSname@: added accessibility support . . . . .                               | 366 | \@GLStext@: added accessibility support . . . . .         | 364 |
| \@GLSplural@: added accessibility support . . . . .                             | 365 | \@GLSuseri@: added accessibility support . . . . .        | 367 |
| \@GLSsymbol@: added accessibility support . . . . .                             | 367 | \@GLSuseriii@: added accessibility support . . . . .      | 368 |
| \@GLSsymbolplural@: added accessibility support . . . . .                       | 367 | \@GLSuseriv@: added accessibility support . . . . .       | 368 |
| \@GLStext@: added accessibility support . . . . .                               | 364 | \@do@write@glslabels: new . . . . .                       | 35  |
| \@GLSuseri@: added accessibility support . . . . .                              | 367 | \@domakeglossaries: new . . . . .                         | 34  |
| \@GLSuserii@: added accessibility support . . . . .                             | 368 | \@gls@access@display: deprecated . . . . .                | 353 |
| \@GLSuseriii@: added accessibility support . . . . .                            | 368 | \@gls@fieldaccess@display: new . . . . .                  | 353 |
| \@GLSuseriv@: added accessibility support . . . . .                             | 368 | \@glsdesc@: added accessibility support . . . . .         | 366 |
|                                                                                 |     | \@glsdescplural@: added accessibility support . . . . .   | 366 |
|                                                                                 |     | \@glsfirst@: added accessibility support . . . . .        | 365 |
|                                                                                 |     | \@glsfirstplural@: added accessibility support . . . . .  | 365 |
|                                                                                 |     | \@glsname@: added accessibility support . . . . .         | 366 |

|                                                                 |     |                                                         |     |
|-----------------------------------------------------------------|-----|---------------------------------------------------------|-----|
| \@glsplural@: added accessibility support                       | 365 | \Glsentryprefixfirstplural: added \glsdetoklabel        | 338 |
| \@glsshowaccsupp: new                                           | 9   | \glsentryprefixfirstplural: added \glsdetoklabel        | 337 |
| \@glssymbol@: added accessibility support                       | 367 | \Glsentryprefixplural: added \glsdetoklabel             | 338 |
| \@glssymbolplural@: added accessibility support                 | 367 | \glsentryprefixplural: added \glsdetoklabel             | 337 |
| \@glstext@: added accessibility support                         | 364 | \glsentrytitlecase: added existence check               | 175 |
| \@glsuseri@: added accessibility support                        | 367 | \glsentryuseriaccess: new                               | 351 |
| \@glsuserii@: added accessibility support                       | 368 | \glsentryuseriiaccess: new                              | 351 |
| \@glsuseriii@: added accessibility support                      | 368 | \glsentryuseriiiaccess: new                             | 351 |
| \@glsuseriv@: added accessibility support                       | 368 | \glsentryuserivaccess: new                              | 351 |
| \@glsuserv@: added accessibility support                        | 369 | \glsentryuserviaccess: new                              | 351 |
| \@glsuservi@: added accessibility support                       | 369 | \glsfieldaccsupp: new                                   | 352 |
| \@org@Gls@acrentryname: added check for \glsshortaccessdisplay  | 172 | \glsfirstaccessdisplay: added check for existence       | 354 |
| acronyms: changed \renewcommand to \def                         | 20  | \glsfirstpluralaccessdisplay: added check for existence | 354 |
| debug: showaccsupp                                              | 7   | \glslongaccessdisplay: added check for existence        | 355 |
| disablemakegloss: new                                           | 34  | \glslongpluralaccessdisplay: added check for existence  | 355 |
| \gls@accessibility: new                                         | 344 | \glsnameaccessdisplay: added check for existence        | 353 |
| \gls@accsupp@engine: new                                        | 344 | \glspluralaccessdisplay: added check for existence      | 354 |
| \glsaccessibility: new                                          | 344 | \glsprefixsep: new                                      | 339 |
| \glsdefaultshortaccess: new                                     | 380 | \glssee: switched to \newrobustcmd                      | 214 |
| \glsdescriptionaccessdisplay: added check for existence         | 354 | \glsseeformat: switched to \newrobustcmd                | 215 |
| \glsdescriptionpluralaccessdisplay: added check for existence   | 355 | \glsseeitem: switched to \newrobustcmd                  | 215 |
| \glsentrydescpluralaccess: corrected field reference            | 350 | \glsseelist: switched to \newrobustcmd                  | 215 |
| \glsentryfirstpluralaccess: switched to using \@gls@entry@field | 350 | \glsshortaccessdisplay: added check for existence       | 355 |
| \glsentryparent: new                                            | 175 | \glsshortaccsupp: new                                   | 353 |
| \Glsentryprefix: added \glsdetoklabel                           | 338 | \glsshortplaccsupp: new                                 | 353 |
| \glsentryprefix: added \glsdetoklabel                           | 337 | \glsshortpluralaccessdisplay: added check for existence | 355 |
| \Glsentryprefixfirst: added \glsdetoklabel                      | 337 | \glsshowaccsupp: new                                    | 9   |
| \glsentryprefixfirst: added \glsdetoklabel                      | 337 | \glsshowtargetfont: new                                 | 8   |
|                                                                 |     | \glsshowtargetouter: new                                | 8   |
|                                                                 |     | \glsshowtargetsymbols: new                              | 8   |
|                                                                 |     | \glsymbolaccessdisplay: added check for existence       | 354 |

|                                                      |     |                                                          |        |
|------------------------------------------------------|-----|----------------------------------------------------------|--------|
| <code>\glssymbolpluralaccessdisplay:</code>          |     | <code>\ifglossaryexists:</code> added                    |        |
| added check for existence                            | 354 | starred form                                             | 67     |
| <code>\glstextaccessdisplay:</code> added            |     | <code>\s@ifglossaryexists:</code> new                    | 68     |
| check for existence                                  | 354 | <code>\setglossarypreamble:</code> switched              |        |
| <code>\glsuseriaccessdisplay:</code> new             | 355 | to starred form of                                       |        |
| <code>\glsuseriiaccessdisplay:</code> new            | 355 | <code>\ifglossaryexists</code>                           | 54     |
| <code>\glsuseriiiaccessdisplay:</code>               |     | 4.47 – 2021-09-20                                        |        |
| new                                                  | 356 | General: changed <code>\x</code> to <code>\@gls@x</code> | 246    |
| <code>\glsuserivaccessdisplay:</code> new            | 356 | <code>\@do@esc@wrglossary:</code> changed                |        |
| <code>\glsuservaccessdisplay:</code> new             | 356 | <code>\edef</code> to <code>\protected@edef</code>       | 212    |
| <code>\glsuserviiaccessdisplay:</code> new           | 356 | <code>\@do@noesc@wrglossary:</code>                      |        |
| <code>\ifglshaschildren:</code> made robust          | 70  | changed <code>\edef</code> to                            |        |
| <code>\ifglshasfield:</code> made robust             | 72  | <code>\protected@edef</code>                             | 209    |
| <code>\ifglshaslong:</code> made robust              | 71  | <code>\@do@write@glslabels:</code> fully                 |        |
| <code>\ifglshasprefix:</code> added                  |     | expand list                                              | 35     |
| <code>\glsdetoklabel</code>                          | 338 | <code>\@gls@@default@acr@descplural:</code>              |        |
| <code>\ifglshasprefixfirst:</code> added             |     | new                                                      | 268    |
| <code>\glsdetoklabel</code>                          | 338 | <code>\@gls@@default@acr@firstplural:</code>             |        |
| <code>\ifglshasprefixfirstplural:</code>             |     | new                                                      | 268    |
| added <code>\glsdetoklabel</code>                    | 339 | <code>\@gls@@default@acr@plural:</code>                  |        |
| <code>\ifglshasprefixplural:</code> added            |     | new                                                      | 268    |
| <code>\glsdetoklabel</code>                          | 338 | <code>\@gls@noexpand@assign@default@plurals:</code>      |        |
| <code>\ifglshasshort:</code> made robust             | 71  | new                                                      | 268    |
| <code>\ifglshassymbol:</code> made robust            | 71  | <code>\@glo@do@sortentries:</code> changed               |        |
| <code>\makeglossaries:</code> let                    |     | <code>\edef</code> to <code>\protected@edef</code>       | 226    |
| <code>\@makeglossary</code> to <code>\@gobble</code> |     | <code>\@glo@sortentries:</code> changed                  |        |
| instead of <code>\relax</code>                       | 198 | <code>\edef</code> to <code>\protected@edef</code>       | 225    |
| <code>restoremakeloss:</code> new                    | 35  | <code>\@glo@storeentry:</code> changed                   |        |
| <code>user1access:</code> new                        | 346 | <code>\edef</code> to <code>\protected@edef</code>       | 105    |
| <code>user2access:</code> new                        | 346 | <code>\@gls@checkesc:</code> new                         | 136    |
| <code>user3access:</code> new                        | 346 | <code>\@gls@deprecated@acr@warning:</code>               |        |
| <code>user4access:</code> new                        | 347 | new                                                      | 271    |
| <code>user5access:</code> new                        | 347 | <code>\@gls@link:</code> changed <code>\edef</code> to   |        |
| <code>user6access:</code> new                        | 347 | <code>\protected@edef</code>                             | 127    |
| <code>writeglslabels:</code> new                     | 36  | <code>\@gls@setupsort@use:</code> changed                |        |
| <code>\xglfieldaccsupp:</code> new                   | 352 | <code>\edef</code> to <code>\protected@edef</code>       | 18     |
| 4.46 – 2020-03-19                                    |     | <code>\@gls@writedef:</code> added a                     |        |
| <code>\@ifglossaryexists:</code> new                 | 68  | warning if entry has already                             |        |
| <code>\@printgloss@checkexists:</code>               |     | been defined                                             | 89     |
| new                                                  | 217 | <code>\@makeglossaries@warn@noprintglossary:</code>      |        |
| <code>\@printgloss@checkexists@allowignored:</code>  |     | new                                                      | 199    |
| new                                                  | 217 | <code>\@write@glslabelsname:</code> new                  | 36     |
| <code>\@printgloss@checkexists@noignored:</code>     |     | <code>\do@write@glslabelsname:</code> new                | 36     |
| new                                                  | 216 | <code>\forglsentries:</code> changed <code>\edef</code>  |        |
| <code>\@printglossary:</code> replaced               |     | to <code>\protected@edef</code>                          | 67     |
| <code>\ifglossaryexists</code> with                  |     | <code>\gls@defdocnewglossaryentry:</code>                |        |
| <code>\@printgloss@checkexists</code>                | 218 | removed see warning                                      | 86     |
| <code>\doifglossarynoexistsordo:</code>              |     | <code>\gls@defglossaryentry:</code> changed              |        |
| switched to starred form of                          |     | <code>\edef</code> to                                    |        |
| <code>\ifglossaryexists</code>                       | 70  | <code>\protected@edef</code>                             | 98, 99 |



|                                                             |     |                                                             |     |
|-------------------------------------------------------------|-----|-------------------------------------------------------------|-----|
| <code>\gls@docdef@addlabel</code> : new ..                  | 87  | <code>\SetDescriptionFootnoteAcronymStyle</code> :          |     |
| <code>\gls@docdef@labellist</code> : new ..                 | 87  | added deprecated warnings                                   | 269 |
| <code>\gls@glsdefs@addlabel</code> : new ..                 | 87  | <code>\SetDUASStyle</code> : added deprecated               |     |
| <code>\gls@glsdefs@labellist</code> : new ..                | 87  | warnings .....                                              | 271 |
| <code>\gls@save@numberlist</code> : changed                 |     | <code>\SetFootnoteAcronymStyle</code> :                     |     |
| <code>\edef</code> to <code>\protected@edef</code>          | 216 | added deprecated warnings                                   | 270 |
| <code>\glsadd</code> : changed <code>\edef</code> to        |     | <code>\SetSmallAcronymStyle</code> : added                  |     |
| <code>\protected@edef</code> .....                          | 181 | deprecated warnings .....                                   | 270 |
| <code>\glsaddall</code> : changed <code>\edef</code> to     |     | <code>writeglslabelnames</code> : new .....                 | 36  |
| <code>\protected@edef</code> .....                          | 181 | 4.48 – 2021-10-19                                           |     |
| <code>\glsdefs@newdocentry</code> : new ..                  | 88  | <code>\glscapitalisewords</code> : new .....                | 175 |
| <code>\glsdisplaynumberlist</code> : changed                |     | <code>\glslistexpandedname</code> : new .....               | 285 |
| <code>\edef</code> to <code>\protected@edef</code>          | 179 | <code>\glslistinit</code> : new .....                       | 285 |
| <code>\glsfielddef</code> : changed <code>\edef</code> to   |     | <code>\glsunexpandedfieldvalue</code> : new                 | 96  |
| <code>\protected@edef</code> .....                          | 95  | 4.49 – 2021-11-01                                           |     |
| <code>\glsfielddedef</code> : changed <code>\edef</code> to |     | <code>\glslistinit</code> : added                           |     |
| <code>\protected@edef</code> .....                          | 94  | <code>\glsnavigation</code> .....                           | 285 |
| <code>\glsfieldfetch</code> : changed <code>\edef</code>    |     | 4.50 – 2022-10-14                                           |     |
| to <code>\protected@edef</code> .....                       | 95  | General: added initialisation .....                         | 249 |
| <code>\glsfieldgdef</code> : changed <code>\edef</code> to  |     | allow markup to be stripped                                 |     |
| <code>\protected@edef</code> .....                          | 95  | from location .....                                         | 247 |
| <code>\glsfieldxdef</code> : changed <code>\edef</code> to  |     | corrected description mapping                               | 347 |
| <code>\protected@edef</code> .....                          | 94  | don't load <code>glossary-super</code> if <code>xtab</code> |     |
| <code>\glsIfListOfAcronyms</code> : changed                 |     | has been loaded .....                                       | 12  |
| <code>\edef</code> to <code>\protected@edef</code>          | 21  | No longer requires <code>textcase</code>                    |     |
| <code>\glsmoveentry</code> : changed <code>\edef</code> to  |     | with <code>mfirstuc 2.08+</code> .....                      | 5   |
| <code>\protected@edef</code> .....                          | 104 | removed automatic loading of                                |     |
| <code>\glsnavhyperlink</code> : changed                     |     | <code>glossaries-compatible-307</code> .....                | 42  |
| <code>\edef</code> to <code>\protected@edef</code>          | 278 | switched to using                                           |     |
| <code>\GlsSetQuote</code> : added check for                 |     | <code>\glsuppercase</code> .....                            |     |
| backslash .....                                             | 192 | ..... 147–161, 163, 165, 167, 169                           |     |
| <code>\glsstepsubentry</code> : changed                     |     | <code>\@do@esc@wrglossary</code> : moved                    |     |
| <code>\edef</code> to <code>\protected@edef</code>          | 238 | <code>\romannumeral</code> inside allow                     |     |
| <code>\ifglsfieldcseq</code> : changed <code>\edef</code>   |     | primitive mods .....                                        | 211 |
| to <code>\protected@edef</code> .....                       | 97  | <code>\@gls@@default@acr@descplural</code> :                |     |
| <code>\ifglshaschildren</code> : changed                    |     | removed .....                                               | 268 |
| <code>\edef</code> to <code>\protected@edef</code>          | 70  | <code>\@gls@@default@acr@firstplural</code> :               |     |
| <code>\ifignoredglossary</code> : changed                   |     | removed .....                                               | 268 |
| <code>\edef</code> to <code>\protected@edef</code>          | 78  | <code>\@gls@@default@acr@plural</code> :                    |     |
| <code>\makenoidxglossaries</code> : changed                 |     | removed .....                                               | 268 |
| <code>\edef</code> to <code>\protected@edef</code>          | 200 | <code>\@gls@default@entryfmt</code> :                       |     |
| <code>\new@glossaryentry</code> : allow                     |     | removed .....                                               | 356 |
| overwrite if defined in                                     |     | <code>\@gls@navhypertarget</code> : new .....               | 280 |
| <code>.glsdefs</code> .....                                 | 87  | <code>\@gls@noexpand@assign@default@plurals</code> :        |     |
| <code>\newignoredglossary</code> : changed                  |     | removed .....                                               | 268 |
| <code>\edef</code> to <code>\protected@edef</code>          | 77  | <code>\@Gls@acronymname</code> : removed                    |     |
| <code>\ns@newglossary</code> : changed <code>\edef</code>   |     | <code>mfirstuc</code> internal commands                     | 171 |
| to <code>\protected@edef</code> .....                       | 76  | <code>\@Glsdisp</code> : new .....                          | 146 |
| <code>\SetDescriptionDUAAcronymStyle</code> :               |     | <code>\@Glsentryfield</code> : new .....                    | 170 |
| added deprecated warning                                    | 269 |                                                             |     |

|                                            |          |                                    |          |
|--------------------------------------------|----------|------------------------------------|----------|
| \@domakeglossaries: added                  |          | \CustomNewAcronymDef:              |          |
| check for \nofiles                         | 34       | removed                            | 271      |
| \@gls@automake: added check for            |          | \DefaultNewAcronymDef:             |          |
| void codepage                              | 195      | removed                            | 268, 380 |
| \@gls@automake@immediate:                  |          | \defglsdisplay: removed            | 122      |
| added check for void                       |          | \defglsdisplayfirst: removed       | 122      |
| codepage                                   | 196      | \DescriptionDUANewAcronymDef:      |          |
| \@gls@automake@types: new                  | 197      | removed                            | 269      |
| \@gls@defaulttype: new                     | 74       | \DescriptionFootnoteNewAcronymDef: |          |
| \@gls@do@automake@err: new                 | 36       | removed                            | 269, 380 |
| \@gls@do@glsunset: new                     | 124      | \DescriptionNewAcronymDef:         |          |
| \@gls@entry@field: switched to             |          | removed                            | 269, 380 |
| \csuse                                     | 169      | dua: switched to using             |          |
| \@gls@escbsdq: check                       |          | \glsuppercase                      | 262, 263 |
| esclocations setting                       | 130      | dua-desc: removed \acronymfont     |          |
| \@gls@getcounterprefix:                    |          | from around long form              | 264      |
| changed \edef to \def                      | 213      | \DUANewAcronymDef: removed         | 271      |
| \@gls@getgrouptitle: switched              |          | esclocations: default now false    | 12       |
| to L <sup>A</sup> T <sub>E</sub> X3 syntax | 242      | \findrootlanguage: removed         | 65       |
| \@gls@glslink@hyper@update@hook:           |          | footnote: switched to using        |          |
| new                                        | 123      | \glsuppercase                      | 264      |
| \@gls@hypergroup: updated to               |          | \FootnoteNewAcronymDef:            |          |
| use etoolbox                               | 281      | removed                            | 270, 380 |
| \@gls@noist@toolate: new                   | 193      | \glossary: removed                 | 39       |
| \@gls@removedoption: new                   | 27       | \glossaryentryfield: removed       | 241      |
| \@gls@requested@languages:                 |          | \glossarymark: switched to using   |          |
| new                                        | 31       | \glsuppercase                      | 55       |
| \@gls@restore@glslocal: new                | 124      | \glossarystyle: removed            | 244      |
| \@gls@sanitizedesc: removed                | 24       | \glossarysubentryfield:            |          |
| \@gls@save@glslocal: new                   | 123      | removed                            | 241      |
| \@gls@setupsort@clear: new                 | 18       | \gls@automake@makegloss: new       | 36       |
| \@gls@defaultplural: Removed               | 84       | \gls@automake@option: new          | 36       |
| \@org@Gls@acentryname: saved               |          | \gls@codepage: set default         |          |
| original definition of                     |          | codepage to utf8 if                |          |
| \@Gls@acentryname                          | 171      | \inputencodingname not             |          |
| \@xp@gls@getcounterprefix:                 |          | defined and switched to            |          |
| new                                        | 213      | \ifdefvoid                         | 34       |
| \@xp@gls@hypernumber: new                  | 245      | \gls@delimN: renamed \@delimN      |          |
| automake: added makegloss and              |          | to \gls@delimN                     | 246      |
| lite options                               | 37       | \gls@delimR: renamed \@delimR      |          |
| automakegloss: new                         | 38       | to \gls@delimR                     | 246      |
| automakeglosslite: new                     | 38       | \gls@disablepagerefexpansion:      |          |
| compatible-2.07: deprecated                | 38       | added check for esclocations       | 207      |
| compatible-3.07: deprecated                | 38       | \gls@noidx@nonumberlist: new       | 81       |
| \compatibleglossentry:                     |          | \gls@noidxglossary: added          |          |
| removed                                    | 239, 344 | \glswrglossdisablelocationcmds     |          |
| \compatiblesubglossentry:                  |          |                                    | 204      |
| removed                                    | 241, 344 | \gls@xdy@set@lang: new             | 33       |
| \CustomAcronymFields:                      |          | \gls@addkey: allow expansion in    |          |
| removed                                    | 271      | PDF bookmarks                      | 92       |

|                                      |       |        |  |
|--------------------------------------|-------|--------|--|
| switched to using                    |       |        |  |
| \glssupercase                        | ..... | 93     |  |
| \GlsAddXdyAttribute: remove          |       |        |  |
| duplicate counterless                |       |        |  |
| attribute definitions                | ...   | 59, 60 |  |
| \Glsdisp: new                        | ..... | 146    |  |
| \glssdisplay: removed                | ..... | 122    |  |
| \glssdisplayfirst: removed           | ...   | 122    |  |
| \glssdoparenifnotempty:              |       |        |  |
| replaced                             |       |        |  |
| \DeclareRobustCommand with           |       |        |  |
| \newrobustcmd                        | ..... | 270    |  |
| \glssdoshowtarget: new               | ..... | 8      |  |
| \glssencapwrccontent: new            | ...   | 128    |  |
| \Glsentrydesc: allow expansion       |       |        |  |
| in PDF bookmarks                     | ..... | 172    |  |
| \Glsentrydescplural: allow           |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 173    |  |
| \Glsentryfirst: allow expansion      |       |        |  |
| in PDF bookmarks                     | ..... | 174    |  |
| \Glsentryfirstplural: allow          |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 175    |  |
| \glssentryfmt: obsolete              |       |        |  |
| commands replaced with               |       |        |  |
| \glssgenentryfmt                     | ..... | 117    |  |
| \Glsentrylong: allow expansion       |       |        |  |
| in PDF bookmarks                     | ..... | 178    |  |
| \Glsentrylongpl: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 178    |  |
| \Glsentryname: allow expansion       |       |        |  |
| in PDF bookmarks                     | ..... | 171    |  |
| \Glsentryplural: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 173    |  |
| \Glsentryprefix: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 338    |  |
| \Glsentryprefixfirst: allow          |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 337    |  |
| \Glsentryprefixfirstplural:          |       |        |  |
| allow expansion in PDF               |       |        |  |
| bookmarks                            | ..... | 338    |  |
| \Glsentryprefixplural: allow         |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 338    |  |
| \Glsentryshort: allow expansion      |       |        |  |
| in PDF bookmarks                     | ..... | 177    |  |
| \Glsentryshortpl: allow              |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 178    |  |
| \Glsentrysymbol: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 174    |  |
| \Glsentrysymbolplural: allow         |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 174    |  |
| \Glsentrytext: allow expansion       |       |        |  |
| in PDF bookmarks                     | ..... | 173    |  |
| \glssentrytitlecase: use             |       |        |  |
| sentence case for PDF                |       |        |  |
| bookmark                             | ..... | 175    |  |
| \Glsentryuseri: allow expansion      |       |        |  |
| in PDF bookmarks                     | ..... | 176    |  |
| \Glsentryuserii: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 176    |  |
| \Glsentryuseriii: allow              |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 176    |  |
| \Glsentryuseriv: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 177    |  |
| \Glsentryuserv: allow expansion      |       |        |  |
| in PDF bookmarks                     | ..... | 177    |  |
| \Glsentryuservi: allow               |       |        |  |
| expansion in PDF                     |       |        |  |
| bookmarks                            | ..... | 177    |  |
| \glssfielddef: made robust           | ...   | 95     |  |
| \glssfieldedef: made robust          | ..    | 94     |  |
| \glssfieldfetch: made robust         | ..    | 95     |  |
| \glssfieldgdef: made robust          | ..    | 95     |  |
| \glssfieldxdef: made robust          | ..    | 94     |  |
| \glssgenacfmt: switched to using     |       |        |  |
| \glssupercase                        | ..... | 120    |  |
| \glssgenentryfmt: switched to        |       |        |  |
| using \glssupercase                  | ....  | 118    |  |
| \glssgetgrouplabel: converted to     |       |        |  |
| use L <sup>A</sup> T <sub>E</sub> X3 | ..... | 243    |  |
| \glssgetgrouptitle: made             |       |        |  |
| robust                               | ..... | 242    |  |
| \glssglossarymark: switched to       |       |        |  |
| \glssupercase                        | ..... | 54     |  |
| \glssifhyper: removed                | ..... | 124    |  |
| \glssindexingsetting: new            | ...   | 15     |  |
| \glssinlineifhaschildren: new        |       | 283    |  |

|                                               |     |                                                           |          |
|-----------------------------------------------|-----|-----------------------------------------------------------|----------|
| <code>\Glslink</code> : new                   | 125 | <code>\SetCustomDisplayStyle</code> :                     |          |
| <code>\glslocationcstoencap</code> : new      | 53  | removed                                                   | 271      |
| <code>\glslowercase</code> : new              | 4   | <code>\SetCustomStyle</code> : removed                    | 271      |
| <code>\glsmfuaddmap</code> : new              | 5   | <code>\SetDefaultAcronymStyle</code> :                    |          |
| <code>\glsmfublocker</code> : new             | 5   | removed                                                   | 268      |
| <code>\glsmfuexcl</code> : new                | 5   | <code>\SetDescriptionAcronymDisplayStyle</code> :         |          |
| <code>\glsnavhyperlink</code> : changed       |     | removed                                                   | 269      |
| <code>\@glo@type</code> to                    |     | <code>\SetDescriptionAcronymStyle</code> :                |          |
| <code>\currentglossary</code>                 | 278 | removed                                                   | 270      |
| <code>\glsnavhypertarget</code> : changed     |     | <code>\SetDescriptionDUAAcronymDisplayStyle</code> :      |          |
| <code>\@glo@type</code> to                    |     | removed                                                   | 269      |
| <code>\currentglossary</code>                 | 280 | <code>\SetDescriptionDUAAcronymStyle</code> :             |          |
| <code>\glsnavigation</code> : changed         |     | removed                                                   | 269      |
| <code>\@glo@type</code> to                    |     | <code>\SetDescriptionFootnoteAcronymDisplayStyle</code> : |          |
| <code>\currentglossary</code>                 | 281 | removed                                                   | 269      |
| <code>\glsnoidxprenumberlist</code> : new     | 82  | <code>\SetDescriptionFootnoteAcronymStyle</code> :        |          |
| <code>\glsnumberlistloop</code> : corrected   |     | removed                                                   | 269      |
| parameter number                              | 203 | <code>\SetDUADisplayStyle</code> : removed                | 270      |
| <code>\glsseeitemformat</code> : added test   |     | <code>\SetDUASStyle</code> : removed                      | 271      |
| for short field                               | 215 | <code>\SetFootnoteAcronymDisplayStyle</code> :            |          |
| <code>\glsentencecase</code> : new            | 4   | removed                                                   | 270      |
| <code>\glsshowtargetfonttext</code> : new     | 8   | <code>\SetFootnoteAcronymStyle</code> :                   |          |
| <code>\glsshowtargetinner</code> : new        | 8   | removed                                                   | 270      |
| <code>\glstexpdfstring</code> : new           | 170 | <code>\SetGenericNewAcronym</code> :                      |          |
| <code>\glsuppercase</code> : new              | 4   | corrected long plural suffix                              | 254      |
| <code>\GlsWarnAddProtectedPageFmt</code> :    |     | switched to using                                         |          |
| new                                           | 208 | <code>\glsuppercase</code>                                | 255      |
| <code>\glswrglossdisableanchorcmds</code> :   |     | <code>\setglossentrycompatibility</code> :                |          |
| new                                           | 208 | removed                                                   | 241      |
| <code>\glswrglossdisablelocationcmds</code> : |     | <code>\SetSmallAcronymDisplayStyle</code> :               |          |
| new                                           | 207 | removed                                                   | 270      |
| <code>\glswrglosslocationtarget</code> :      |     | <code>\SetSmallAcronymStyle</code> :                      |          |
| new                                           | 209 | removed                                                   | 270      |
| <code>\glswrglosslocationtextfmt</code> :     |     | <code>\SmallNewAcronymDef</code> :                        |          |
| new                                           | 209 | removed                                                   | 270, 380 |
| <code>\ifglsfieldcseq</code> : made robust    | 97  | <code>sort</code> : added clear                           | 15       |
| <code>\ifglsfielddefeq</code> : made robust   | 96  | 4.51 – 2022-11-02                                         |          |
| <code>\ifglsfieldeq</code> : made robust      | 96  | General: switch to                                        |          |
| <code>\ifglsfieldvoid</code> : new            | 72  | <code>\TrackIfKnownLanguage</code>                        | 48       |
| <code>\ifglsresetcurrcount</code> : new       | 111 | <code>\do@wrglossary</code> : added                       |          |
| <code>\ifglsrallowprimitivemods</code> :      |     | <code>\gls@ifnotmeasuring</code>                          | 206      |
| switch default to false                       | 209 | <code>\@gls@@automake@immediate</code> :                  |          |
| <code>\istfile</code> : removed               | 204 | ensure list is expanded before                            |          |
| <code>kernelglossredefs</code> : corrected    |     | iterating                                                 | 197      |
| names of choice variables                     | 40  | <code>\@gls@if@measuring</code> : new                     | 106      |
| <code>languages</code> : new                  | 31  | <code>alttree</code> : replaced <code>\settowidth</code>  |          |
| <code>\makeglossary</code> : removed          | 39  | with <code>\glsmeasurewidth</code>                        | 332, 333 |
| <code>mfirstuc</code> : new                   | 41  | <code>\gls@if@measuring</code> : new                      | 106      |
| <code>\SetAcronymStyle</code> : removed       | 271 | <code>\gls@local@stepcounter</code> : new                 | 107      |
|                                               |     | <code>\gls@org@refstepcounter</code> : new                | 106      |

|                                               |     |                                              |     |
|-----------------------------------------------|-----|----------------------------------------------|-----|
| <code>\gls@start@measuring</code> : new ..    | 107 | <code>\Glsentryname</code> : change map to   |     |
| <code>\gls@stop@measuring</code> : new ...    | 108 | exclusion .....                              | 171 |
| <code>\glsdohypertarget</code> : added        |     | <code>\Glsentryplural</code> : change map to |     |
| measuring and group .....                     | 137 | exclusion .....                              | 173 |
| <code>\glsfindwidesttoplevelname</code> :     |     | <code>\Glsentryshort</code> : change map to  |     |
| replaced <code>\settowidth</code> with        |     | exclusion .....                              | 177 |
| <code>\glsmeasurewidth</code> .....           | 331 | <code>\Glsentryshortpl</code> : change map   |     |
| <code>\glsifmeasuring</code> : new .....      | 107 | to exclusion .....                           | 178 |
| <code>\glsmeasuredepth</code> : new .....     | 108 | <code>\Glsentrysymbol</code> : change map to |     |
| <code>\glsmeasureheight</code> : new .....    | 108 | exclusion .....                              | 174 |
| <code>\glsmeasurewidth</code> : new .....     | 108 | <code>\Glsentrysymbolplural</code> : change  |     |
| <code>\glspatchtabularx</code> : switch       |     | map to exclusion .....                       | 174 |
| measuring on and off .....                    | 108 | <code>\Glsentrytext</code> : change map to   |     |
| <code>\makeglossaries</code> : ensure list of |     | exclusion .....                              | 173 |
| glossaries is expanded before                 |     | <code>\Glsentryuseri</code> : change map to  |     |
| iterating .....                               | 199 | exclusion .....                              | 176 |
| 4.52 – 2022-11-03                             |     | <code>\Glsentryuserii</code> : change map to |     |
| <code>\gls@local@stepcounter</code> :         |     | exclusion .....                              | 176 |
| corrected spelling of <code>\@ne</code> ..    | 107 | <code>\Glsentryuseriii</code> : change map   |     |
| 4.53 – 2023-09-29                             |     | to exclusion .....                           | 176 |
| <code>\@gls@hypergroup</code> : rewritten in  |     | <code>\Glsentryuseriv</code> : change map to |     |
| $\LaTeX$ 3 .....                              | 281 | exclusion .....                              | 177 |
| <code>\glsnavhypergroupdotarget</code> :      |     | <code>\Glsentryuserv</code> : change map to  |     |
| new .....                                     | 280 | exclusion .....                              | 177 |
| <code>\glsnavigationitem</code> : new ....    | 281 | <code>\Glsentryuservi</code> : change map to |     |
| 4.54 – 2024-04-03                             |     | exclusion .....                              | 177 |
| General: added check for                      |     | <code>\glslabelhypertarget</code> : new ..   | 138 |
| <code>\l_datatool_measure_hook_tl</code>      |     | <code>\glslabelhypertargetdefs</code> :      |     |
| .....                                         | 107 | new .....                                    | 138 |
| <code>\gls@printglossary@begin</code> :       |     | <code>\glslabelhypertargetprefix</code> :    |     |
| new .....                                     | 219 | new .....                                    | 138 |
| <code>\gls@printglossary@end</code> : new ..  | 220 | <code>\glslabelhypertargetvalue</code> :     |     |
| <code>\glsdohyperlinkhook</code> : new ...    | 139 | new .....                                    | 138 |
| <code>\glsdohypertargethook</code> : new ..   | 138 | <code>\glslowercase</code> : ensure argument |     |
| <code>\Glsentrydesc</code> : change map to    |     | is expanded .....                            | 4   |
| exclusion .....                               | 172 | <code>\glsuppercase</code> : ensure argument |     |
| <code>\Glsentrydescplural</code> : change     |     | is expanded .....                            | 4   |
| map to exclusion .....                        | 173 | 4.55 – 2024-11-01                            |     |
| <code>\Glsentryfirst</code> : change map to   |     | <code>\@gls@run@output@dir</code> : new ..   | 42  |
| exclusion .....                               | 174 | <code>\@gls@run@output@file</code> : new ..  | 43  |
| <code>\Glsentryfirstplural</code> : change    |     | <code>\@gls@run@unrestricted@shell</code> :  |     |
| map to exclusion .....                        | 175 | new .....                                    | 42  |
| <code>\Glsentryfull</code> : change map to    |     | <code>\@gls@runshell</code> : new .....      | 42  |
| exclusion .....                               | 178 | <code>\gls@set@xr@key</code> : added check   |     |
| <code>\Glsentrylong</code> : change map to    |     | for empty value .....                        | 80  |
| exclusion .....                               | 178 | <code>locales</code> : new .....             | 31  |
| <code>\Glsentrylongpl</code> : change map to  |     |                                              |     |
| exclusion .....                               | 178 |                                              |     |

## Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the definition; numbers in *roman* refer to the pages where the entry is used.

| Symbols                       |                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------|
| \!                            | 131, 134, 192, 457, 458, 706, 708, 709, 739, 960, 962, 993, 1115, 1117, 1149                          |
| \"                            | 26, 131–134, 136, 394, 455–457, 459, 644, 706–709, 711, 898, 959–962, 964, 965, 1053, 1114–1117, 1119 |
| \#                            | 136, 186, 482, 483, 710, 711, 734, 964, 989, 1119, 1144, 1145                                         |
| \%                            | 183, 189, 480, 484, 585–587, 732, 736, 838–840, 986, 991, 1142, 1146                                  |
| \&                            | 48, 180, 405, 479, 655, 731, 911, 985, 1065, 1141                                                     |
| \'                            | 26, 394, 644, 898, 1053                                                                               |
| \.                            | 13, 26, 387, 394, 637, 644, 891, 898, 1046, 1053                                                      |
| \=                            | 26, 394, 644, 898, 1053                                                                               |
| \?                            | 131–133, 191, 455–457, 486, 706–708, 738, 959, 961, 993, 1114, 1116, 1148                             |
| \@                            | 88, 427, 678, 934, 1088                                                                               |
| \@@delimN                     | 517, 769                                                                                              |
| \@do@wrglossary               | 200, 209, 212, 212, 492, 498, 499, 744, 749, 750, 999, 1005, 1006, 1155, 1161, 1162                   |
| \@do@esc@wrglossary           | 208, 209, 497, 498, 749, 750, 1005, 1160, 1161                                                        |
| \@do@noesc@wrglossary         | 208, 209, 497, 749, 1005, 1160                                                                        |
| \@do@wrglossary               | 181, 206, 208, 479, 496, 497, 731, 748, 749, 986, 1003, 1005, 1141, 1159, 1160                        |
| \@do@write@glslabels          | 35, 35, 400, 650, 905, 1059                                                                           |
| \@glo@sortentries             | 225, 228, 229                                                                                         |
| \@glo@assign@sortkey          | 201, 236, 493, 511, 745, 763, 1000, 1019, 1156, 1174                                                  |
| \@glo@list                    | 67, 416, 666, 922, 1077                                                                               |
| \@glo@sort                    | 26, 394, 644, 898, 1053                                                                               |
| \@glo@type                    | 217, 501, 753, 1009, 1164, 1165                                                                       |
| \@glossarysec                 | 10, 10, 56, 386, 409, 635, 636, 659, 890, 915, 1044, 1069, 1070                                       |
| \@glossaryseclabel            | 10, 10, 11, 56, 235, 386, 409, 511, 636, 659, 762, 763, 890, 915, 1018, 1044, 1045, 1069, 1070, 1174  |
| \@glossarysecstar             | 10, 10, 11, 56, 235, 386, 409, 511, 636, 659, 762, 763, 890, 915, 1018, 1044, 1045, 1069, 1174        |
| \@gls@default@acr@desclplural | 268, 783                                                                                              |
| \@gls@default@acr@firstplural | 268, 783                                                                                              |
| \@gls@default@acr@plural      | 268, 783                                                                                              |
| \@gls@checkactual             | 135, 459, 710, 963, 964, 1118, 1119                                                                   |
| \@gls@checkbar                | 134, 458, 709, 963, 1117, 1118                                                                        |
| \@gls@checkescactual          | 133, 456, 457, 707, 708, 961, 1116                                                                    |
| \@gls@checkescbar             | 133, 457, 708, 962, 1116, 1117                                                                        |
| \@gls@checkesclevel           | 134, 457, 458, 708, 709, 962, 1117                                                                    |
| \@gls@checkescquote           | 132, 192, 193, 456, 487, 488, 707, 739, 740, 961, 994, 1115, 1116, 1149, 1150                         |
| \@gls@checklevel              | 135, 458, 459, 709, 710, 963, 1118                                                                    |
| \@gls@checkquote              | 132, 190, 191, 455, 456, 486, 706, 707, 737, 738, 960, 992, 1115, 1148                                |
| \@gls@codepage                | 195, 196, 995–997, 1151, 1152                                                                         |
| \@gls@default@entryfmt        | 356, 444, 450, 451, 555, 695, 701, 808                                                                |
| \@gls@expand@field            | 24, 85, 85, 91, 92, 393, 425, 426, 429, 531–534, 536, 538, 540, 542, 576–                             |

580, 643, 676, 679, 680, 783,  
785, 786, 788, 790, 791, 793,  
795, 830–833, 897, 932, 935,  
936, 1052, 1086, 1087, 1090, 1091  
\@gls@extramakeindexopts . . . . .  
. . . . . 190, 198, 485,  
491, 737, 743, 992, 998, 1147, 1154  
\@gls@fixbraces . . . . . 214,  
214, 500, 752, 1007, 1008, 1163  
\@gls@navhypertarget 280, 280, 1040  
\@gls@noexpand@assign@default@plurals  
. . . . . 268, 783, 830  
\@gls@noexpand@field . . . . .  
. . . 24, 84, 85, 393, 425, 643,  
675, 676, 897, 931, 932, 1052, 1086  
\@gls@noidx@no@sanitizesort . .  
. . . . . 26, 394, 644, 898, 1053  
\@gls@noidx@nosanitizesort . . .  
. . . . . 26, 203, 394, 494,  
644, 746, 898, 1001, 1053, 1157  
\@gls@noidx@sanitizesort . . . . .  
. . . . . 25, 394, 643, 898, 1052  
\@gls@nosanitizesort . . . . . 25,  
25, 203, 393, 394, 494, 643,  
746, 897, 898, 1001, 1052, 1157  
\@gls@sanitizesort . . . . . 25,  
25, 203, 393, 394, 494, 643,  
746, 897, 898, 1001, 1052, 1157  
\@gls@xdycheckbackslash . . . . .  
. . . 137, 460, 711, 712, 965, 1120  
\@gls@xdycheckquote . . . . . 136,  
137, 459, 711, 964, 965, 1119, 1120  
\@gls@localreset 110, 110, 112, 440,  
442, 691, 692, 948, 949, 1103, 1104  
\@gls@localunset 109, 109, 112, 440,  
441, 691, 692, 948, 949, 1103, 1104  
\@gls@reset . . . 110, 110, 112, 440,  
441, 691, 692, 948, 949, 1103, 1104  
\@gls@showtarget . . . . . 7, 8, 9,  
384, 385, 634, 635, 888, 889, 1043  
\@gls@unset . . . 109, 110, 112, 440,  
441, 691, 692, 948, 949, 1103, 1104  
\@newglossaryentry@defcounters  
111, 111, 441, 692, 949, 1103, 1104  
\@this@glo@ . . 67, 416, 666, 922, 1077  
\@ACRfull . . . . . 252, 519, 771, 1026, 1181, 1182  
\@ACRfullpl . . . . . 253, 519, 520, 771, 1026, 1182  
\@ACRlong . . . . . 166,  
251, 364, 473, 519, 563, 724,  
771, 816, 978, 1025, 1134, 1181  
\@ACRlongpl 168, 169, 251, 474, 520,  
725, 772, 979, 1025, 1135, 1181  
\@ACRshort . . . . . 162, 163,  
251, 363, 470, 519, 562, 722,  
771, 816, 976, 1025, 1132, 1181  
\@ACRshortpl 164, 251, 471, 472, 520,  
723, 772, 977, 1025, 1133, 1181  
\@Acrfull . . 252, 519, 771, 1026, 1181  
\@Acrfullpl . 253, 519, 771, 1026, 1182  
\@Acrlong . . . . . 166, 251,  
363, 472, 519, 563, 724, 771,  
816, 978, 1025, 1133, 1134, 1181  
\@Acrlongpl . . . 168, 251, 473, 519,  
725, 771, 979, 1025, 1135, 1181  
\@Acrshort . . . . . 162,  
362, 470, 562, 722, 815, 976, 1131  
\@Acrshortpl . 164, 471, 723, 977, 1132  
\@Alph . . . . . 207, 211, 497, 498,  
749, 750, 1004–1006, 1160, 1161  
\@GLS . . . 142, 462, 713, 714, 967, 1123  
\@GLS@ . . . . . 142, 142,  
342, 462, 602, 714, 855, 967, 1123  
\@GLSdesc . . . 152, 466, 718, 971, 1127  
\@GLSdesc@ . . . . . 152,  
366, 466, 565, 718, 818, 971, 1127  
\@GLSdescplural . . . . .  
. . . . . 153, 467, 718, 972, 1127  
\@GLSdescplural@ . . . . . 153,  
366, 467, 565, 718, 818, 972, 1127  
\@GLSfirst . . 148, 465, 716, 970, 1125  
\@GLSfirst@ . . . . . 148,  
365, 465, 564, 716, 817, 970, 1125  
\@GLSfirstplural . . . . .  
. . . . . 150, 465, 717, 971, 1126  
\@GLSfirstplural@ . . . . . 150,  
365, 466, 564, 717, 818, 971, 1126  
\@GLSname . . . 151, 466, 717, 971, 1127  
\@GLSname@ . . . . . 151,  
366, 466, 565, 718, 818, 971, 1127  
\@GLSpl . . 144, 144, 463, 715, 968, 1124  
\@GLSpl@ . . . . . 144,  
343, 463, 603, 715, 856, 968, 1124  
\@GLSplural . . 149, 465, 717, 970, 1126  
\@GLSplural@ . . . . . 149,  
365, 465, 564, 717, 817, 970, 1126  
\@GLSsymbol . . 154, 467, 719, 972, 1128

|                                          |                          |                                          |                               |
|------------------------------------------|--------------------------|------------------------------------------|-------------------------------|
| \@GLSsymbol@ . . . . .                   | 154,                     | \@Glsdescplural . . . . .                | 152, 153, 466, 718, 972, 1127 |
| 367, 467, 565, 719, 818, 972, 1128       |                          | \@Glsdescplural@ . . . . .               | 153,                          |
| \@GLSsymbolplural . . . . .              |                          | 366, 466, 565, 718, 818, 972, 1127       |                               |
| . . . . . 155, 467, 719, 973, 1128       |                          | \@Glsdisp . . . . .                      | 146, 146, 969, 1124           |
| \@GLSsymbolplural@ . . . . .             | 155,                     | \@Glsentryfield . . . . .                |                               |
| 367, 467, 565, 719, 819, 973, 1128       |                          | . 92, 170, 172–178, 337, 338,            |                               |
| \@GLStext 146, 147, 464, 716, 969, 1125  |                          | 936, 980–984, 1091, 1136–1140            |                               |
| \@GLStext@ . . . . .                     | 147,                     | \@Glsfirst 147, 148, 465, 716, 970, 1125 |                               |
| 364, 464, 564, 716, 817, 969, 1125       |                          | \@Glsfirst@ . . . . .                    | 148,                          |
| \@GLSuseri . . 156, 468, 719, 973, 1129  |                          | 365, 465, 564, 716, 817, 970, 1125       |                               |
| \@GLSuseri@ . . . . .                    | 156,                     | \@Glsfirstplural . . . . .               |                               |
| 367, 468, 566, 719, 819, 973, 1129       |                          | . . . 149, 150, 465, 717, 970, 1126      |                               |
| \@GLSuserii . . 157, 468, 720, 973, 1129 |                          | \@Glsfirstplural@ . . . . .              |                               |
| \@GLSuserii@ . . . . .                   | 157,                     | . . . 150, 365, 465, 717, 970, 1126      |                               |
| 368, 468, 566, 720, 819, 973, 1129       |                          | \@Glsname 150, 151, 466, 717, 971, 1126  |                               |
| \@GLSuseriii . 158, 468, 720, 974, 1129  |                          | \@Glsname@ . . . . .                     | 151,                          |
| \@GLSuseriii@ . . . . .                  | 158,                     | 366, 466, 564, 717, 818, 971, 1126       |                               |
| 368, 468, 566, 720, 819, 974, 1129       |                          | \@Glspl . . . . .                        | 143, 463, 714, 968, 1123      |
| \@GLSuseriv . . 159, 469, 720, 974, 1130 |                          | \@Glspl@ . . . . .                       | 113, 116,                     |
| \@GLSuseriv@ . . . . .                   | 159,                     | 143, 144, 342, 442, 444, 463,            |                               |
| 368, 469, 566, 720, 819, 974, 1130       |                          | 601, 602, 693, 694, 714, 855,            |                               |
| \@GLSuserv . . 160, 469, 721, 975, 1130  |                          | 950, 952, 968, 1105, 1106, 1123          |                               |
| \@GLSuserv@ . . . . .                    | 160,                     | \@Glsplural . . . . .                    |                               |
| 369, 469, 567, 721, 820, 975, 1130       |                          | . . . 148, 149, 465, 717, 970, 1126      |                               |
| \@GLSuservi . . 161, 469, 721, 975, 1131 |                          | \@Glsplural@ . . . . .                   | 149,                          |
| \@GLSuservi@ . . . . .                   | 161,                     | 365, 465, 564, 717, 817, 970, 1126       |                               |
| 369, 469, 567, 721, 820, 975, 1131       |                          | \@Glsymbol . . . . .                     |                               |
| \@Gls . . . . .                          | 141, 461, 713, 967, 1122 | . . . 153, 154, 467, 718, 972, 1128      |                               |
| \@Gls@ . . . . .                         | 113,                     | \@Glsymbol@ . . . . .                    | 154,                          |
| 115, 141, 141, 341, 442, 443,            |                          | 367, 467, 565, 718, 818, 972, 1128       |                               |
| 461, 601, 693, 694, 713, 854,            |                          | \@Glsymbolplural . . . . .               |                               |
| 950, 951, 967, 1105, 1106, 1122          |                          | . . . 154, 155, 467, 719, 972, 1128      |                               |
| \@Gls@@link . . . . .                    | 125, 126, 956, 1111      | \@Glsymbolplural@ . . . . .              | 155,                          |
| \@Gls@acentryname . . . . .              |                          | 367, 467, 565, 719, 819, 972, 1128       |                               |
| . . . . . 171, 254, 475, 520,            |                          | \@Glstext . . . 147, 464, 716, 969, 1125 |                               |
| 726, 772, 981, 1027, 1136, 1182          |                          | \@Glstext@ . . . . .                     | 147,                          |
| \@Gls@entry@field . . . . .              | 170,                     | 364, 464, 564, 716, 817, 969, 1125       |                               |
| 170, 171, 172, 430, 474–478,             |                          | \@Glsuser@i 367–369, 566, 567, 819, 820  |                               |
| 680, 726–729, 980, 981, 1136, 1137       |                          | \@Glsuseri 155, 156, 468, 719, 973, 1128 |                               |
| \@Gls@entryname . . . . .                |                          | \@Glsuseri@ . . . . .                    |                               |
| 171, 171, 254, 475, 520, 726,            |                          | . . . 156, 367, 468, 719, 973, 1128      |                               |
| 772, 980, 981, 1027, 1136, 1182          |                          | \@Glsuserii . . . . .                    |                               |
| \@GlsSetXdyFirstLetterAfterDigits        |                          | . . . 156, 157, 468, 720, 973, 1129      |                               |
| . . . 183, 480, 732, 986, 987, 1142      |                          | \@Glsuserii@ . . . . .                   |                               |
| \@GlsSetXdyNumberGroupOrder 183,         |                          | . . . 157, 368, 468, 720, 973, 1129      |                               |
| 184, 480, 481, 732, 987, 1142, 1143      |                          | \@Glsuseriii . . . . .                   |                               |
| \@Glsdesc 151, 152, 466, 718, 971, 1127  |                          | . . . 157, 158, 468, 720, 974, 1129      |                               |
| \@Glsdesc@ . . . . .                     | 152,                     | \@Glsuseriii@ . . . . .                  |                               |
| 366, 466, 565, 718, 818, 971, 1127       |                          | . . . 158, 368, 468, 720, 974, 1129      |                               |



|                                                                                                                                                                                                                 |                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <code>\@Glsuseriv</code> .....                                                                                                                                                                                  | 1011, 1040, 1080, 1081, 1105,<br>1121, 1154, 1155, 1158, 1164, 1166                                        |
| ... 158, 159, 469, 720, 974, 1130                                                                                                                                                                               |                                                                                                            |
| <code>\@Glsuseriv@</code> .....                                                                                                                                                                                 | <code>\@backslashchar</code> .....                                                                         |
| ... 159, <u>368</u> , 469, 720, 974, 1130                                                                                                                                                                       | 130,<br>131, 137, 192, 454, 460, 705,<br>706, 711, 712, 739, 959, 960,<br>965, 993, 1114, 1115, 1120, 1149 |
| <code>\@Glsuserv</code> 159, 160, 469, 721, 974, 1130                                                                                                                                                           | <code>\@bsphack</code> .. 206, 496, 748, 1003, 1159                                                        |
| <code>\@Glsuserv@</code> .....                                                                                                                                                                                  | <code>\@cGls</code> .. 115, <u>115</u> , 443, 694, 951, 1106                                               |
| ... 160, <u>369</u> , 469, 721, 974, 1130                                                                                                                                                                       | <code>\@cGls@</code> .....                                                                                 |
| <code>\@Glsuservi</code> .....                                                                                                                                                                                  | 113, 115, <u>115</u> , 442,<br>443, 693, 694, 950, 951, 1105, 1106                                         |
| ... 160, 161, 469, 721, 975, 1130                                                                                                                                                                               | <code>\@cGlspl</code> .....                                                                                |
| <code>\@Glsuservi@</code> .....                                                                                                                                                                                 | 116, 443, 694, 951, 1106                                                                                   |
| ... 161, <u>369</u> , 469, 721, 975, 1130                                                                                                                                                                       | <code>\@cGlspl@</code> .....                                                                               |
| <code>\@Mi</code> .....                                                                                                                                                                                         | 113, 116, <u>116</u> , 442–<br>444, 693, 694, 950, 951, 1105, 1106                                         |
| 299, 612, 866                                                                                                                                                                                                   | <code>\@ccclv</code> .....                                                                                 |
| <code>\@PGLS</code> .....                                                                                                                                                                                       | 299, 612, 613, 866                                                                                         |
| 342, <u>342</u> , 602, 855                                                                                                                                                                                      | <code>\@cgls</code> .. 114, <u>114</u> , 443, 694, 951, 1105                                               |
| <code>\@PGLS@</code> .....                                                                                                                                                                                      | <code>\@cgls@</code> .....                                                                                 |
| 342, <u>342</u> , 602, 855                                                                                                                                                                                      | 112, 114, <u>114</u> , 442,<br>443, 692, 694, 949, 951, 1104, 1106                                         |
| <code>\@PGLSpl</code> .....                                                                                                                                                                                     | <code>\@cglspl</code> .....                                                                                |
| 342, <u>343</u> , 602, 855                                                                                                                                                                                      | 115, <u>115</u> , <u>116</u> , 443, 694, 951, 1106                                                         |
| <code>\@PGLSpl@</code> .....                                                                                                                                                                                    | <code>\@cglspl@</code> .....                                                                               |
| 343, <u>343</u> , 602, 855                                                                                                                                                                                      | 113, 115, <u>115</u> , 442,<br>443, 693, 694, 950, 951, 1104, 1106                                         |
| <code>\@PglS</code> .....                                                                                                                                                                                       | <code>\@chapter</code> .....                                                                               |
| 340, <u>340</u> , 601, 854                                                                                                                                                                                      | 46, 404, 654, 910, 1065                                                                                    |
| <code>\@PglS@</code> .....                                                                                                                                                                                      | <code>\@classoptionslist</code> .....                                                                      |
| 340, <u>340</u> , 601, 854                                                                                                                                                                                      | 42, 403, 653, 909, 1063                                                                                    |
| <code>\@PglSpl</code> .....                                                                                                                                                                                     | <code>\@closegls</code> .....                                                                              |
| 341, <u>341</u> , 601, 854                                                                                                                                                                                      | 194, <u>194</u> , 195,<br>488, 489, 740, 741, 995, 996, 1151                                               |
| <code>\@PglSpl@</code> .....                                                                                                                                                                                    | <code>\@colht</code> .....                                                                                 |
| 341, <u>341</u> , 601, 854                                                                                                                                                                                      | 299, 613, 866                                                                                              |
| <code>\@Roman</code> .....                                                                                                                                                                                      | <code>\@colroom</code> .....                                                                               |
| 207, 211, 497, 498,<br>749, 750, 1004, 1005, 1160, 1161                                                                                                                                                         | 299, 613, 866                                                                                              |
| <code>\@acrfull</code> 251, <u>251</u> , 518, 770, 1025, 1181                                                                                                                                                   | <code>\@currentlabelname</code> .....                                                                      |
| <code>\@acrfullpl</code> . 252, 519, 771, 1026, 1182                                                                                                                                                            | 11, 235, 386, 511,<br>636, 763, 890, 1018, 1045, 1174                                                      |
| <code>\@acrlong</code> .....                                                                                                                                                                                    | <code>\@curroptions</code> . 42, 403, 653, 909, 1063                                                       |
| 165, 251, <u>363</u> ,<br>472, 518, 563, 723, 724, 770,<br>816, 977, 978, 1025, 1133, 1181                                                                                                                      | <code>\@declaredoptions</code> .....                                                                       |
| <code>\@acrlongpl</code> ... 167, 251, 473, 519,<br>725, 771, 979, 1025, 1134, 1181                                                                                                                             | 42, 403, 653, 909, 1063                                                                                    |
| <code>\@acrshort</code> .....                                                                                                                                                                                   | <code>\@delimN</code> .....                                                                                |
| 161, 251, <u>362</u> ,<br>470, 518, 519, 562, 721, 770,<br>771, 815, 975, 1025, 1131, 1181                                                                                                                      | 517, 769                                                                                                   |
| <code>\@acrshortpl</code> .. 163, 251, 471, 519,<br>722, 771, 976, 1025, 1132, 1181                                                                                                                             | <code>\@delimR</code> .....                                                                                |
| <code>\@addtoacronymlists</code> .....                                                                                                                                                                          | 517, 769                                                                                                   |
| 21, 391, 641, 895, 1050                                                                                                                                                                                         | <code>\@disable@onlypremakeg</code> .....                                                                  |
| <code>\@addtoacronymlists</code> .....                                                                                                                                                                          | 46, 198, 404,<br>491, 655, 743, 910, 998, 1065, 1154                                                       |
| 21                                                                                                                                                                                                              | <code>\@disable@premakecs</code> .....                                                                     |
| <code>\@afterheading</code> 287, 589, 606, 842, 860                                                                                                                                                             | 46, <u>47</u> , 405, 655, 910, 1065                                                                        |
| <code>\@alph</code> .....                                                                                                                                                                                       | <code>\@disabled@glsaddxdycounters</code> <u>59</u> ,<br>60, 411, 661, 662, 917, 1071, 1072                |
| 207, 211, 497, 498,<br>749, 750, 1004–1006, 1160, 1161                                                                                                                                                          | <code>\@do@addcounter</code> .....                                                                         |
| <code>\@arabic</code> .....                                                                                                                                                                                     | 58, 410, 411, 661, 916, 1071                                                                               |
| 207, 211, 497, 498,<br>749, 750, 1004, 1005, 1160, 1161                                                                                                                                                         | <code>\@do@auxoutstuff</code> .....                                                                        |
| <code>\@auxout</code> .....                                                                                                                                                                                     | 220,<br>221, 503, 755, 1010, 1011, 1166                                                                    |
| 74, 76, 114,<br>138, 198, 200, 201, 204, 216,<br>220, 280, 420, 443, 491–493,<br>495, 501, 503, 603, 670, 671,<br>693, 694, 743–745, 747, 753,<br>755, 856, 926, 927, 950, 951,<br>998, 1000, 1002, 1008, 1010, | <code>\@do@glossentry</code> .. 513, 547, 765, 800                                                         |
|                                                                                                                                                                                                                 | <code>\@do@gls@checkesc</code> 131, 706, 960, 1115                                                         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\@do@gl@getcounterprefix</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1050, 1061, 1063–1065, 1071,<br>1072, 1074, 1076, 1077, 1096,<br>1100, 1112, 1113, 1122–1124,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| . . . . . 213, 497,<br>498, 749, 750, 1006, 1007, 1162                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1131–1135, 1143, 1145, 1147,<br>1151–1153, 1158, 1159, 1162, 1178                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\@do@gl@islistofacronyms</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| . . . . . 21, 391, 641, 895, 1050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\@do@gl@see</code> . . . . . 104, 437, 688, 944, 1099                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <code>\@end@fixbraces</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>\@do@ifinlist</code> . . . . . 58, 410, 660, 916, 1071                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | . . . . . 214, 500, 752, 1007, 1008, 1163                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>\@do@newglossaryentry</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <code>\@endfortrue</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| . . . . . 254, 520, 530–543, 576–580,<br>772, 782–797, 829–833, 1027, 1183                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | . . . . . 31, 70, 90, 398, 418, 428,<br>603, 648, 668, 679, 856, 902,<br>923, 935, 1040, 1057, 1078, 1090                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>\@do@seeglossary</code> . . . . . 200,<br>214, 214, 492, 500, 744, 751,<br>752, 1000, 1007, 1008, 1155, 1163                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <code>\@esphack</code> . . . . . 206, 496, 748, 1003, 1159                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>\@do@subglossentry</code> 514, 547, 766, 800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <code>\@expandtwoargs</code> 42, 403, 653, 909, 1063                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>\@do@wrglossary</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <code>\@firstofone</code> . . . . . 26,<br>35, 285, 394, 395, 400, 644,<br>650, 859, 898, 899, 904, 1053, 1059                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| . . . . . 127, 206, 453, 496, 583, 703,<br>748, 836, 957, 1003, 1112, 1159                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\@firstofthree</code> . . . . . 124, 140, 143,<br>145, 161, 163, 165, 167, 362–<br>364, 451, 461, 462, 464, 470–<br>473, 562, 563, 702, 713–715,<br>721, 723–725, 815–817, 956,<br>966, 968, 969, 975, 976, 978,<br>979, 1110, 1122–1124, 1131–1134                                                                                                                                                                                                                                                                                                                                                                             |
| <code>\@do@write@gl@labels</code> . . . . . 35,<br>36, 400, 650, 904, 905, 1059, 1060                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <code>\@firstoftwo</code> 29–31, 89, 90, 107, 124,<br>143, 144, 163–165, 167–169,<br>397, 398, 427, 428, 451, 462,<br>463, 471–474, 646–648, 678,<br>679, 702, 714, 715, 722, 723,<br>725, 726, 901, 902, 934, 935,<br>946, 956, 968, 976, 977, 979,<br>980, 1056, 1057, 1089, 1090,<br>1101, 1110, 1123, 1124, 1132–1135                                                                                                                                                                                                                                                                                                             |
| <code>\@do@writeaux@info</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <code>\@for</code> . . . . . 31, 42, 46, 48, 58, 60, 67,<br>89, 90, 130, 184–186, 197–199,<br>207, 215, 225, 226, 256, 398,<br>403, 404, 410, 411, 416, 427,<br>428, 454, 481, 482, 491, 492,<br>497, 500, 504, 521, 531, 533,<br>535, 536, 538, 541, 542, 544,<br>583, 603, 604, 648, 653, 655,<br>661, 666, 678, 679, 705, 733,<br>734, 743, 744, 749, 752, 755,<br>756, 773, 783, 786, 787, 789,<br>791, 794, 795, 797, 837, 856,<br>857, 902, 909–911, 916, 917,<br>922, 934, 935, 959, 987–989,<br>997–999, 1004, 1008, 1011,<br>1028, 1040, 1057, 1063, 1065,<br>1066, 1071, 1072, 1076, 1077,<br>1089, 1090, 1114, 1143, 1144, |
| . . . . . 216, 501, 753, 1008, 1164                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\@doendpe</code> . . . . . 220, 1166                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\@domakeglossaries</code> . . . . . 34,<br>34, 35, 197, 200, 399, 400, 491,<br>492, 649, 650, 743, 744, 904,<br>998, 999, 1058, 1059, 1153, 1155                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\@ehc</code> . . . . . 299, 612, 866                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\@empty</code> . . . . . 14, 18, 21, 38, 41, 42,<br>46, 58, 59, 63, 66, 67, 100, 105,<br>106, 128, 129, 140–144, 161–<br>169, 184, 187, 189, 195, 196,<br>204, 206, 213, 243, 362–364,<br>388, 390, 391, 401, 403, 404,<br>410, 411, 413, 415, 416, 435,<br>438, 453, 461–463, 470–474,<br>481, 483, 485, 489, 490, 495,<br>496, 499, 515, 531, 533–540,<br>542, 544, 562, 563, 583, 585–<br>587, 637, 639, 641, 651, 653,<br>654, 660, 661, 664, 666, 685,<br>686, 689, 704, 713–715, 721–<br>726, 733, 735, 737, 740–742,<br>747, 748, 751, 767, 783, 785,<br>787, 789, 791–793, 795, 797,<br>815–817, 837, 839, 840, 891,<br>893–895, 906–910, 916, 917,<br>919, 921, 922, 941, 942, 945,<br>957, 958, 966–968, 975–980,<br>987, 990, 991, 995–997, 1002,<br>1003, 1007, 1022, 1046, 1048, |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

1153, 1154, 1159, 1163, 1167, 1184  
 \@glo@desc .. 102, 436, 687, 943, 1098  
 \@glo@symbol 103, 437, 688, 944, 1098  
 \@glo@access .. 345, 348, 353, 547,  
 549, 550, 552, 553, 801–803, 806  
 \@glo@addchildren ..  
 .... 225, 226, 230, 504, 507,  
 756, 759, 1011, 1014, 1167, 1170  
 \@glo@assign@sortkey 199, 201, 236,  
 492, 493, 511, 743, 745, 763,  
 999, 1000, 1019, 1154, 1156, 1174  
 \@glo@autosee ..  
 ... 103, 103, 437, 688, 944, 1099  
 \@glo@autoseehook ..  
 ... 104, 104, 437, 688, 944, 1099  
 \@glo@check@mkidxrangear ..  
 129, 212, 454, 499, 583, 705,  
 750, 836, 958, 1006, 1113, 1162  
 \@glo@check@sortallowed ..  
 .... 16, 16, 17–19,  
 199, 203, 388–390, 492, 494,  
 638–640, 744, 746, 892–894,  
 999, 1001, 1047–1049, 1154, 1157  
 \@glo@childlist ..  
 .... 226, 504, 756, 1011, 1167  
 \@glo@counter .. 80, 99, 102,  
 423, 434, 436, 673, 685, 687,  
 929, 941, 943, 1083, 1095, 1098  
 \@glo@counterprefix 204, 209, 212,  
 213, 243, 247, 495, 497–499,  
 515, 517, 747, 749–751, 767,  
 769, 1002, 1005–1007, 1022,  
 1024, 1158, 1160–1162, 1178, 1179  
 \@glo@default@sorttype ..  
 .... 15, 15, 201,  
 228, 229, 388, 493, 506, 507,  
 638, 745, 757–759, 892, 1000,  
 1013, 1014, 1047, 1156, 1169, 1170  
 \@glo@defaultcounter ..  
 .... 102, 436, 687, 943, 1098  
 \@glo@desc .. 79,  
 97, 98, 100, 102, 422, 433–437,  
 672, 684, 685, 687, 928, 940,  
 941, 943, 1083, 1095, 1096, 1098  
 \@glo@descaccess ..  
 346, 348, 349, 548–550, 801–803  
 \@glo@descplural ..  
 ... 79, 97, 98, 422, 433, 434,  
 672, 684, 928, 940, 941, 1083, 1095  
 \@glo@descpluralaccess ..  
 346, 348, 349, 548–550, 801–803  
 \@glo@do@sortentries 225, 226, 504,  
 755, 756, 1011, 1012, 1167, 1168  
 \@glo@entry ..  
 ... 181, 182, 480, 731, 986, 1142  
 \@glo@entryprefix ..  
 .... 336, 337, 598, 599, 851, 852  
 \@glo@entryprefixfirst ..  
 .... 336, 337, 598, 599, 851, 852  
 \@glo@entryprefixfirstplural ..  
 .... 336, 337, 598, 599, 851, 852  
 \@glo@entryprefixplural ..  
 .... 336, 337, 598, 599, 851, 852  
 \@glo@esclabel .. 105, 106,  
 438, 439, 689, 690, 945, 946, 1100  
 \@glo@etext .. 444–446, 695–697  
 \@glo@first .. 79, 98, 101, 102,  
 422, 434, 436, 437, 540, 579,  
 672, 685, 687, 793, 833, 928,  
 941, 943, 1083, 1095, 1097, 1098  
 \@glo@firstaccess ..  
 .... 345, 348, 548–550, 801–803  
 \@glo@firstplural ..  
 .. 79, 98, 101, 102, 422, 434,  
 436, 579, 672, 685, 687, 833,  
 928, 941, 943, 1083, 1095, 1097  
 \@glo@firstpluralaccess ..  
 .... 345, 348, 548–550, 801–803  
 \@glo@grabfirst .. 231, 231, 508, 760, 1015, 1171  
 \@glo@label .. 81, 83, 91,  
 92, 94–104, 111, 179, 180, 331,  
 337, 348, 349, 424, 429, 431–  
 437, 441, 478, 479, 549–551,  
 599, 630, 631, 674, 675, 680,  
 682–688, 692, 730, 731, 803,  
 804, 852, 884, 929–931, 936,  
 938–944, 949, 985, 986, 1084,  
 1085, 1090–1099, 1104, 1140, 1141  
 \@glo@list .. 104, 437, 688, 944, 1099  
 \@glo@long .. 71,  
 83, 99, 102, 418, 424, 434, 436,  
 668, 674, 685, 687, 924, 930,  
 941, 943, 1079, 1085, 1096, 1098  
 \@glo@longaccess ..  
 346, 348, 349, 548–550, 801–803  
 \@glo@longpl .. 83, 99,  
 102, 424, 434, 436, 530, 532,  
 534, 536, 537, 540, 541, 576,

|                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 674, 685, 687, 782, 783, 785,<br>786, 788, 790, 793, 794, 829,<br>930, 941, 943, 1085, 1096, 1098                                                                                                                                         | 576–579, 801–803, 829–831, 833                                                                                                                                                                                                                   |
| \@glo@longpluralaccess . . . . .                                                                                                                                                                                                          | \@glo@shortpl . . . . . 83, 99, 102,<br>424, 434, 436, 530, 532, 534,<br>536, 537, 540, 541, 576, 579,<br>674, 685, 687, 782–784, 786,<br>788, 790, 793, 794, 829, 833,<br>930, 941, 943, 1085, 1096, 1098                                       |
| 346, 348, 349, 548–550, 801–803                                                                                                                                                                                                           | \@glo@shortpluralaccess . . . . .<br>346, 348, 349, 548–550, 801–803                                                                                                                                                                             |
| \@glo@name . . . 16, 78, 84, 98, 101,<br>102, 389, 422, 425, 434–436,<br>638, 672, 675, 684, 686, 687,<br>892, 928, 931, 940, 942, 943,<br>1047, 1083, 1086, 1095, 1097, 1098                                                             | \@glo@sort . 16, 18, 25, 26, 79, 99,<br>101, 105, 106, 389, 390, 394,<br>422, 434, 436, 438, 439, 638,<br>640, 643, 644, 672, 685, 686,<br>689, 690, 892–894, 898, 928,<br>941, 942, 945, 946, 1047, 1049,<br>1052, 1053, 1083, 1095, 1097, 1100 |
| \@glo@no@assign@sortkey . . . . .<br>. . . . . 199, 236, 492, 511,<br>743, 763, 999, 1019, 1154, 1174                                                                                                                                     | \@glo@sortedinsert . . . . .<br>. . . . . 226, 227, 227, 504,<br>505, 756, 757, 1012, 1167, 1168                                                                                                                                                 |
| \@glo@nonumberlist . . . . .<br>. . . . . 82, 423, 424, 674, 930, 1084                                                                                                                                                                    | \@glo@sortentries 224, 225, 225,<br>503, 506, 507, 755, 757, 758,<br>1011, 1013, 1014, 1166, 1169, 1170                                                                                                                                          |
| \@glo@numfmt . . . . .<br>213, 499, 583, 751, 836, 1006, 1162                                                                                                                                                                             | \@glo@sorthandler@case . . . . .<br>. . . . . 225, 228, 505, 506,<br>757, 758, 1012, 1014, 1168, 1169                                                                                                                                            |
| \@glo@parent . . . . .<br>. . . 18, 81, 99–101, 105, 106,<br>226, 227, 390, 423, 434, 435,<br>438, 439, 504, 639, 673, 685,<br>686, 689, 690, 756, 893, 929,<br>941, 942, 945, 946, 1012, 1048,<br>1084, 1095–1097, 1100, 1167, 1168      | \@glo@sorthandler@letter . . . . .<br>. . . . . 224, 227, 505, 506,<br>757, 758, 1012, 1013, 1168, 1169                                                                                                                                          |
| \@glo@plural 79, 98, 101, 422, 434–<br>436, 578, 672, 685–687, 831,<br>928, 941–943, 1083, 1095, 1097                                                                                                                                     | \@glo@sorthandler@nocase . . . . .<br>. . . . . 225, 228, 505, 507,<br>757, 758, 1013, 1014, 1168, 1170                                                                                                                                          |
| \@glo@pluralaccess . . . . .<br>. . . . . 345, 348, 548–550, 801–803                                                                                                                                                                      | \@glo@sorthandler@word . . . . .<br>. . . . . 224, 227, 505,<br>506, 757, 1012, 1013, 1168, 1169                                                                                                                                                 |
| \@glo@prefix . . . . . 12,<br>81, 99, 105, 106, 129, 130, 212,<br>387, 423, 434, 438, 439, 454,<br>499, 583, 636, 673, 685, 689,<br>690, 705, 751, 836, 891, 929,<br>941, 945, 946, 958, 959, 1006,<br>1045, 1084, 1095, 1100, 1113, 1162 | \@glo@sortinghandler . . . . .<br>. . . . . 225, 227, 503, 505,<br>755, 757, 1011, 1012, 1166, 1168                                                                                                                                              |
| \@glo@range . . . . .<br>212, 499, 583, 751, 836, 1006, 1162                                                                                                                                                                              | \@glo@sortinglist . . . . .<br>. . . . . 225, 227, 229, 230,<br>503–505, 507, 755, 756, 759,<br>1011, 1012, 1014, 1166–1168, 1170                                                                                                                |
| \@glo@see . . . . . 80, 99, 103, 104,<br>423, 434, 437, 673, 685, 688,<br>929, 941, 944, 1083, 1095, 1099                                                                                                                                 | \@glo@sortmacro@case . . . . .<br>. . . . . 229, 506, 758, 1014, 1169                                                                                                                                                                            |
| \@glo@seeautonumberlist . . . . .<br>. . . . . 12, 12, 81, 387,<br>423, 636, 673, 890, 929, 1045, 1084                                                                                                                                    | \@glo@sortmacro@def . . . . .<br>. . . . . 229, 507, 759, 1014, 1170                                                                                                                                                                             |
| \@glo@short . . . 71, 72, 83, 99, 102,<br>418, 424, 434, 436, 579, 669,<br>674, 685, 687, 833, 924, 930,<br>941, 943, 1079, 1085, 1096, 1098                                                                                              | \@glo@sortmacro@def@do . . . . .<br>. . . . . 230, 507, 759, 1014, 1170                                                                                                                                                                          |
| \@glo@shortaccess . . . . .<br>. . . . . 346, 348, 349, 548–550,                                                                                                                                                                          | \@glo@sortmacro@letter . . . . .<br>. . . . . 228, 506, 758, 1013, 1169                                                                                                                                                                          |

|                                                                                                                                                         |                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <code>\@glo@sortmacro@nocase</code> . . . . .                                                                                                           | <code>\@glo@type</code> . . .                                                                                                           |
| . . . . . <a href="#">229</a> , <a href="#">506</a> , <a href="#">758</a> , <a href="#">1014</a> , <a href="#">1170</a>                                 | <a href="#">11</a> , <a href="#">18</a> , <a href="#">80</a> , <a href="#">98–100</a> ,                                                 |
| <code>\@glo@sortmacro@standard</code> . . . . .                                                                                                         | <a href="#">102</a> , <a href="#">103</a> , <a href="#">180</a> , <a href="#">181</a> , <a href="#">198</a> , <a href="#">204</a> ,     |
| . . . . . <a href="#">229</a> , <a href="#">506</a> , <a href="#">758</a> , <a href="#">1013</a> , <a href="#">1169</a>                                 | <a href="#">205</a> , <a href="#">218–221</a> , <a href="#">225</a> , <a href="#">226</a> , <a href="#">230</a> ,                       |
| <code>\@glo@sortmacro@use</code> . . . . .                                                                                                              | <a href="#">231</a> , <a href="#">234</a> , <a href="#">235</a> , <a href="#">254</a> , <a href="#">386</a> , <a href="#">390</a> ,     |
| . . . . . <a href="#">230</a> , <a href="#">507</a> , <a href="#">759</a> , <a href="#">1015</a> , <a href="#">1170</a>                                 | <a href="#">422</a> , <a href="#">434–437</a> , <a href="#">479</a> , <a href="#">480</a> , <a href="#">491</a> ,                       |
| <code>\@glo@sortmacro@word</code> . . . . .                                                                                                             | <a href="#">495</a> , <a href="#">496</a> , <a href="#">502–504</a> , <a href="#">507</a> , <a href="#">508</a> ,                       |
| . . . . . <a href="#">228</a> , <a href="#">505</a> , <a href="#">757</a> , <a href="#">1013</a> , <a href="#">1169</a>                                 | <a href="#">510</a> , <a href="#">511</a> , <a href="#">520</a> , <a href="#">531</a> , <a href="#">533</a> , <a href="#">534</a> ,     |
| <code>\@glo@sorttype</code> . . . . .                                                                                                                   | <a href="#">536</a> , <a href="#">538</a> , <a href="#">540</a> , <a href="#">542</a> , <a href="#">544</a> , <a href="#">603</a> ,     |
| <a href="#">201</a> ,                                                                                                                                   | <a href="#">604</a> , <a href="#">636</a> , <a href="#">639</a> , <a href="#">672</a> , <a href="#">684–688</a> ,                       |
| <a href="#">230</a> , <a href="#">231</a> , <a href="#">236</a> , <a href="#">493</a> , <a href="#">507</a> , <a href="#">508</a> ,                     | <a href="#">731</a> , <a href="#">743</a> , <a href="#">747</a> , <a href="#">748</a> , <a href="#">753–756</a> ,                       |
| <a href="#">511</a> , <a href="#">745</a> , <a href="#">759</a> , <a href="#">760</a> , <a href="#">763</a> , <a href="#">1000</a> ,                    | <a href="#">759</a> , <a href="#">760</a> , <a href="#">762</a> , <a href="#">763</a> , <a href="#">772</a> , <a href="#">783</a> ,     |
| <a href="#">1015</a> , <a href="#">1019</a> , <a href="#">1156</a> , <a href="#">1170</a> , <a href="#">1171</a> , <a href="#">1174</a>                 | <a href="#">785</a> , <a href="#">787</a> , <a href="#">789</a> , <a href="#">791</a> , <a href="#">793</a> , <a href="#">795</a> ,     |
| <code>\@glo@storeentry</code> . . . <a href="#">16–18</a> , <a href="#">105</a> ,                                                                       | <a href="#">797</a> , <a href="#">856</a> , <a href="#">857</a> , <a href="#">890</a> , <a href="#">893</a> , <a href="#">894</a> ,     |
| <a href="#">388–390</a> , <a href="#">438</a> , <a href="#">638</a> , <a href="#">639</a> , <a href="#">689</a> ,                                       | <a href="#">928</a> , <a href="#">941–944</a> , <a href="#">986</a> , <a href="#">998</a> , <a href="#">1002</a> ,                      |
| <a href="#">892–894</a> , <a href="#">945</a> , <a href="#">1047</a> , <a href="#">1048</a> , <a href="#">1100</a>                                      | <a href="#">1003</a> , <a href="#">1009–1012</a> , <a href="#">1014</a> , <a href="#">1015</a> ,                                        |
| <code>\@glo@suffix</code> . . . . .                                                                                                                     | <a href="#">1017</a> , <a href="#">1018</a> , <a href="#">1027</a> , <a href="#">1045</a> , <a href="#">1048</a> ,                      |
| <a href="#">129</a> , <a href="#">130</a> ,                                                                                                             | <a href="#">1083</a> , <a href="#">1095</a> , <a href="#">1096</a> , <a href="#">1098</a> , <a href="#">1099</a> ,                      |
| <a href="#">212</a> , <a href="#">454</a> , <a href="#">499</a> , <a href="#">583</a> , <a href="#">705</a> , <a href="#">751</a> ,                     | <a href="#">1141</a> , <a href="#">1142</a> , <a href="#">1154</a> , <a href="#">1158</a> , <a href="#">1165–</a>                       |
| <a href="#">836</a> , <a href="#">958</a> , <a href="#">959</a> , <a href="#">1006</a> , <a href="#">1113</a> , <a href="#">1162</a>                    | <a href="#">1167</a> , <a href="#">1170</a> , <a href="#">1171</a> , <a href="#">1173</a> , <a href="#">1174</a> , <a href="#">1182</a> |
| <code>\@glo@symbol</code> . . . . .                                                                                                                     | <code>\@glo@types</code> . . .                                                                                                          |
| . . . <a href="#">71</a> , <a href="#">80</a> , <a href="#">98</a> , <a href="#">103</a> , <a href="#">418</a> , <a href="#">422</a> ,                  | <a href="#">35</a> , <a href="#">67</a> , <a href="#">74</a> , <a href="#">76</a> , <a href="#">110</a> ,                               |
| <a href="#">434</a> , <a href="#">437</a> , <a href="#">535</a> , <a href="#">539</a> , <a href="#">668</a> , <a href="#">672</a> ,                     | <a href="#">111</a> , <a href="#">181</a> , <a href="#">182</a> , <a href="#">197–199</a> , <a href="#">276</a> ,                       |
| <a href="#">685</a> , <a href="#">688</a> , <a href="#">788</a> , <a href="#">792</a> , <a href="#">924</a> , <a href="#">928</a> ,                     | <a href="#">331</a> , <a href="#">400</a> , <a href="#">416</a> , <a href="#">420</a> , <a href="#">440</a> , <a href="#">441</a> ,     |
| <a href="#">941</a> , <a href="#">944</a> , <a href="#">1079</a> , <a href="#">1083</a> , <a href="#">1095</a> , <a href="#">1098</a>                   | <a href="#">480</a> , <a href="#">491</a> , <a href="#">492</a> , <a href="#">546</a> , <a href="#">630</a> , <a href="#">650</a> ,     |
| <code>\@glo@symbolaccess</code> . . . . .                                                                                                               | <a href="#">666</a> , <a href="#">670</a> , <a href="#">691</a> , <a href="#">692</a> , <a href="#">731</a> , <a href="#">743</a> ,     |
| <a href="#">345</a> ,                                                                                                                                   | <a href="#">744</a> , <a href="#">799</a> , <a href="#">884</a> , <a href="#">905</a> , <a href="#">922</a> , <a href="#">925</a> ,     |
| <a href="#">348</a> , <a href="#">548–550</a> , <a href="#">579</a> , <a href="#">801–803</a> , <a href="#">832</a>                                     | <a href="#">926</a> , <a href="#">948</a> , <a href="#">949</a> , <a href="#">986</a> , <a href="#">997–999</a> ,                       |
| <code>\@glo@symbolplural</code> . . <a href="#">80</a> , <a href="#">98</a> , <a href="#">103</a> ,                                                     | <a href="#">1039</a> , <a href="#">1059</a> , <a href="#">1076</a> , <a href="#">1077</a> , <a href="#">1080</a> ,                      |
| <a href="#">422</a> , <a href="#">434</a> , <a href="#">437</a> , <a href="#">672</a> , <a href="#">685</a> , <a href="#">688</a> ,                     | <a href="#">1081</a> , <a href="#">1103</a> , <a href="#">1142</a> , <a href="#">1153–1155</a> , <a href="#">1195</a>                   |
| <a href="#">928</a> , <a href="#">941</a> , <a href="#">944</a> , <a href="#">1083</a> , <a href="#">1095</a> , <a href="#">1098</a>                    | <code>\@glo@useri</code> . . . . .                                                                                                      |
| <code>\@glo@symbolpluralaccess</code> . . . . .                                                                                                         | <a href="#">82</a> , <a href="#">99</a> , <a href="#">102</a> ,                                                                         |
| <a href="#">345</a> , <a href="#">348</a> , <a href="#">349</a> , <a href="#">548–550</a> , <a href="#">801–803</a>                                     | <a href="#">424</a> , <a href="#">434</a> , <a href="#">436</a> , <a href="#">674</a> , <a href="#">685</a> , <a href="#">687</a> ,     |
| <code>\@glo@text</code> . . . . .                                                                                                                       | <a href="#">930</a> , <a href="#">941</a> , <a href="#">943</a> , <a href="#">1085</a> , <a href="#">1095</a> , <a href="#">1098</a>    |
| <a href="#">79</a> , <a href="#">98</a> , <a href="#">101</a> , <a href="#">103</a> ,                                                                   | <code>\@glo@useriaccess</code> . . . . .                                                                                                |
| <a href="#">141–145</a> , <a href="#">170–172</a> , <a href="#">422</a> , <a href="#">434</a> ,                                                         | <a href="#">346</a> , <a href="#">348</a> , <a href="#">349</a> , <a href="#">548–550</a> , <a href="#">801–803</a>                     |
| <a href="#">436</a> , <a href="#">437</a> , <a href="#">461–464</a> , <a href="#">474</a> , <a href="#">475</a> ,                                       | <code>\@glo@userii</code> . . . . .                                                                                                     |
| <a href="#">536</a> , <a href="#">578</a> , <a href="#">599</a> , <a href="#">672</a> , <a href="#">685</a> , <a href="#">686</a> ,                     | <a href="#">82</a> , <a href="#">99</a> , <a href="#">102</a> ,                                                                         |
| <a href="#">688</a> , <a href="#">713–715</a> , <a href="#">726</a> , <a href="#">727</a> , <a href="#">788</a> ,                                       | <a href="#">424</a> , <a href="#">434</a> , <a href="#">436</a> , <a href="#">674</a> , <a href="#">685</a> , <a href="#">687</a> ,     |
| <a href="#">831</a> , <a href="#">852</a> , <a href="#">928</a> , <a href="#">941</a> , <a href="#">942</a> , <a href="#">944</a> ,                     | <a href="#">930</a> , <a href="#">941</a> , <a href="#">943</a> , <a href="#">1085</a> , <a href="#">1096</a> , <a href="#">1098</a>    |
| <a href="#">967–969</a> , <a href="#">980</a> , <a href="#">981</a> , <a href="#">1083</a> , <a href="#">1095</a> ,                                     | <code>\@glo@useriiaccess</code> . . . . .                                                                                               |
| <a href="#">1097</a> , <a href="#">1098</a> , <a href="#">1122–1124</a> , <a href="#">1136</a> , <a href="#">1137</a>                                   | <a href="#">346</a> ,                                                                                                                   |
| <code>\@glo@textaccess</code> <a href="#">345</a> , <a href="#">348</a> , <a href="#">547</a> , <a href="#">549</a> ,                                   | <a href="#">348</a> , <a href="#">349</a> , <a href="#">548–550</a> , <a href="#">801</a> , <a href="#">802</a> , <a href="#">804</a>   |
| <a href="#">550</a> , <a href="#">576–578</a> , <a href="#">801–803</a> , <a href="#">829–832</a>                                                       | <code>\@glo@useriii</code> . . . . .                                                                                                    |
| <code>\@glo@thislabel</code> . . . . .                                                                                                                  | <a href="#">82</a> , <a href="#">99</a> , <a href="#">102</a> ,                                                                         |
| . . . <a href="#">104</a> , <a href="#">438</a> , <a href="#">688</a> , <a href="#">689</a> , <a href="#">945</a> , <a href="#">1099</a>                | <a href="#">424</a> , <a href="#">434</a> , <a href="#">436</a> , <a href="#">674</a> , <a href="#">685</a> , <a href="#">687</a> ,     |
| <code>\@glo@thislettergrp</code> . . . . .                                                                                                              | <a href="#">930</a> , <a href="#">941</a> , <a href="#">943</a> , <a href="#">1085</a> , <a href="#">1096</a> , <a href="#">1098</a>    |
| . . . . <a href="#">224</a> , <a href="#">231–233</a> , <a href="#">508</a> , <a href="#">509</a> ,                                                     | <code>\@glo@useriiiaccess</code> . . . . .                                                                                              |
| <a href="#">760</a> , <a href="#">761</a> , <a href="#">1015</a> , <a href="#">1016</a> , <a href="#">1171</a> , <a href="#">1172</a>                   | <a href="#">346</a> ,                                                                                                                   |
| <code>\@glo@thisvalue</code> . . . . .                                                                                                                  | <a href="#">348</a> , <a href="#">349</a> , <a href="#">548–550</a> , <a href="#">801</a> , <a href="#">802</a> , <a href="#">804</a>   |
| <a href="#">72</a> , <a href="#">73</a> , <a href="#">419</a> , <a href="#">669</a> , <a href="#">925</a> , <a href="#">1079</a> , <a href="#">1080</a> | <code>\@glo@useriv</code> . . . . .                                                                                                     |
| <code>\@glo@tmp</code> . . . . .                                                                                                                        | <a href="#">83</a> , <a href="#">99</a> , <a href="#">102</a> ,                                                                         |
| <a href="#">74</a> , <a href="#">91</a> , <a href="#">92</a> ,                                                                                          | <a href="#">424</a> , <a href="#">434</a> , <a href="#">436</a> , <a href="#">674</a> , <a href="#">685</a> , <a href="#">687</a> ,     |
| <a href="#">213</a> , <a href="#">429</a> , <a href="#">499</a> , <a href="#">680</a> , <a href="#">751</a> , <a href="#">926</a> ,                     | <a href="#">930</a> , <a href="#">941</a> , <a href="#">943</a> , <a href="#">1085</a> , <a href="#">1096</a> , <a href="#">1098</a>    |
| <a href="#">936</a> , <a href="#">1007</a> , <a href="#">1080</a> , <a href="#">1090</a> , <a href="#">1091</a> , <a href="#">1162</a>                  | <code>\@glo@userivaccess</code> . . . . .                                                                                               |
|                                                                                                                                                         | . . . . <a href="#">347–349</a> , <a href="#">548–550</a> , <a href="#">802–804</a>                                                     |
|                                                                                                                                                         | <code>\@glo@userv</code> . . . . .                                                                                                      |
|                                                                                                                                                         | <a href="#">83</a> , <a href="#">99</a> , <a href="#">102</a> ,                                                                         |
|                                                                                                                                                         | <a href="#">424</a> , <a href="#">434</a> , <a href="#">436</a> , <a href="#">674</a> , <a href="#">685</a> , <a href="#">687</a> ,     |

930, 941, 943, 1085, 1096, 1098  
 \@glo@servaccess . . . . .  
     347–349, 548, 549, 551, 802–804  
 \@glo@servi . . . . . 83, 99, 102,  
     424, 434, 436, 674, 685, 687,  
     930, 941, 943, 1085, 1096, 1098  
 \@glo@serviaccess . . . . .  
     347–349, 548, 549, 551, 802–804  
 \@glodesc . . . 102, 437, 687, 944, 1098  
 \@glolist@ . . 100, 435, 686, 942, 1096  
 \@gloname . . . 102, 436, 687, 943, 1098  
 \@glossary@default@style . . . . .  
     . . . . . 11, 11, 13, 218,  
     244, 272, 386, 387, 502, 516,  
     544, 636, 637, 754, 768, 797,  
     890, 891, 1009, 1022, 1037,  
     1038, 1045, 1046, 1165, 1178, 1193  
 \@glossaryentryfield 104, 105, 106,  
     438, 439, 689, 945, 946, 1099, 1100  
 \@glossarysection . . . . . 54, 55,  
     408, 409, 658, 659, 914, 1068, 1069  
 \@glossarystyle . . . . .  
     218, 219, 235, 502, 510, 754,  
     762, 1009, 1010, 1018, 1165, 1173  
 \@glossarysubentryfield . . . . .  
     . . . . . 104, 105, 106,  
     438, 439, 689, 690, 945, 946, 1100  
 \@gls . . . 140, 140, 461, 713, 966, 1122  
 \@gls@ . . . . . 112, 114, 140, 140,  
     339, 341, 442, 443, 461, 600,  
     601, 693, 694, 713, 853, 854,  
     950, 951, 966, 1104, 1106, 1122  
 \@gls@@automake@immediate . 197,  
     198, 491, 742, 743, 997, 998, 1153  
 \@gls@@link . . . . . 125,  
     125, 126, 451, 452, 702, 956, 1111  
 \@gls@Hcounter . . . . . 128,  
     129, 453, 704, 957, 958, 1112, 1113  
 \@gls@ReturnAfterFi . . . . .  
     . . 247, 517, 518, 769, 1024, 1180  
 \@gls@access@display . . 353, 552, 806  
 \@gls@actualchar 106, 133, 135, 188,  
     439, 456, 457, 459, 484, 586,  
     689, 690, 707, 708, 710, 735,  
     736, 839, 945, 946, 961, 963,  
     964, 990, 1100, 1116, 1118, 1146  
 \@gls@addpredefinedattributes .  
     . . . . . 60, 184, 193, 412, 481,  
     488, 662, 733, 740, 917, 918,  
     987, 995, 1072, 1073, 1143, 1150  
 \@gls@adjustmode . . . . .  
     . . . 181, 181, 479, 731, 986, 1141  
 \@gls@after 21, 391, 392, 641, 896, 1050  
 \@gls@assign@symbol@field . . . . . 25  
 \@gls@assign@symbolplural@field 25  
 \@gls@automake . . . . .  
     194, 199, 488, 489, 492, 740,  
     741, 744, 995, 996, 999, 1151, 1154  
 \@gls@automake@immediate . . . . .  
     . . . . . 195, 197, 489–  
     491, 741–743, 996, 997, 1152, 1153  
 \@gls@automake@types . . . . .  
     197, 197, 199, 997, 999, 1153, 1154  
 \@gls@before . . 21, 391, 641, 896, 1050  
 \@gls@between . . . . .  
     . . 281, 603, 604, 857, 1040, 1041  
 \@gls@body . . . . .  
     172, 475, 726, 727, 981, 1136, 1137  
 \@gls@checkactual . . . . .  
     . . . . 131, 135, 191, 455, 459,  
     486, 706, 710, 738, 960, 963,  
     964, 993, 1114, 1118, 1119, 1149  
 \@gls@checkbox . . . . .  
     . . . . 131, 134, 191, 455, 458,  
     487, 706, 709, 738, 960, 962,  
     963, 993, 1114, 1117, 1118, 1149  
 \@gls@checkedmidx . . . . 130–137,  
     190–192, 454–460, 485–487,  
     705–712, 737–739, 959–965,  
     992–994, 1114–1120, 1148–1150  
 \@gls@checkesc . . . . . 131, 136,  
     192, 706, 739, 960, 993, 1115, 1149  
 \@gls@checkescactual 131, 132, 191,  
     455–457, 486, 706–708, 738,  
     959, 961, 993, 1114, 1116, 1148  
 \@gls@checkeschar . . . . .  
     . . . . . 131, 133, 192, 455,  
     457, 487, 706, 708, 738, 960–  
     962, 993, 1114, 1116, 1117, 1149  
 \@gls@checkesclevel 131, 133, 192,  
     457, 458, 706, 708, 709, 739,  
     960, 962, 993, 1115, 1117, 1149  
 \@gls@checkescquote . . . 131, 132,  
     191–193, 455, 456, 486–488,  
     706, 707, 738, 739, 959–961,  
     993, 994, 1114–1116, 1148–1150  
 \@gls@checklevel 131, 135, 192, 455,  
     458, 487, 706, 709, 710, 738,  
     960, 963, 993, 1115, 1118, 1149

|                                                 |                                                                                                                                                                                                                                             |                                                                                                                               |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <code>\@gls@checkmkidxchars</code> .            | 105, 129,<br>130, 191, 200, 212, 214, 438,<br>454, 455, 486, 492, 498, 500,<br>583, 689, 705, 706, 738, 744,<br>750, 751, 836, 945, 958, 959,<br>993, 999, 1006, 1007, 1100,<br>1113, 1114, 1148, 1155, 1161, 1163                          | 924, 925, 928, 931, 932, 941–<br>944, 1037, 1079, 1080, 1083,<br>1086, 1087, 1095, 1097, 1098, 1193                           |
| <code>\@gls@checkquote</code> . . . . .         | 131, 131,<br>190, 191, 455, 456, 485, 486,<br>706, 707, 737, 738, 959, 960,<br>992, 993, 1114, 1115, 1147, 1148                                                                                                                             | <code>\@gls@defaulttype</code> .                                                                                              |
| <code>\@gls@classI</code> . . . . .             | 185, 481, 482, 733, 988, 1143, 1144                                                                                                                                                                                                         | 74, 74, 926, 1080                                                                                                             |
| <code>\@gls@classII</code>                      | 185, 482, 733, 988, 1144                                                                                                                                                                                                                    | <code>\@gls@deffile</code> . . . . .                                                                                          |
| <code>\@gls@codepage</code> . . . . .           | 65, 220, 221, 415, 503,<br>665, 755, 921, 1011, 1076, 1166                                                                                                                                                                                  | 87–89, 427,<br>428, 677, 678, 933, 934, 1088, 1089                                                                            |
| <code>\@gls@counter</code> . . . . .            | 123, 127–129, 180, 181,<br>204, 212, 213, 451–454, 479,<br>495, 499, 583, 702–704, 731,<br>747, 751, 836, 955, 957, 958,<br>986, 1002, 1006, 1007, 1110,<br>1112, 1113, 1141, 1158, 1162, 1163                                              | <code>\@gls@define@glossaryentrycounter</code><br>. . . . .                                                                   |
| <code>\@gls@counterwithin</code> . . . . .      | 14, 15,<br>388, 637, 638, 891, 892, 1046, 1047                                                                                                                                                                                              | 14, 14, 45, 236, 237,<br>388, 404, 511, 512, 637, 638,<br>654, 763, 764, 891, 892, 909,<br>1018, 1019, 1046, 1064, 1174, 1175 |
| <code>\@gls@ctr</code> . . . . .                | 58, 410, 661, 916, 1071                                                                                                                                                                                                                     | <code>\@gls@define@glossarysubentrycounter</code><br>. . . . .                                                                |
| <code>\@gls@currentlettergroup</code> . . . . . | 231–233, 507, 509,<br>759, 761, 1015, 1016, 1170, 1172                                                                                                                                                                                      | 15, 45,<br>236, 237, 388, 404, 511, 512,<br>638, 654, 763, 764, 892, 910,<br>1018, 1019, 1047, 1064, 1174, 1175               |
| <code>\@gls@debugfalse</code>                   | 7, 384, 634, 888, 1042                                                                                                                                                                                                                      | <code>\@gls@defsort</code> . . . . .                                                                                          |
| <code>\@gls@debugtrue</code> . . . . .          | 7,<br>384, 633, 634, 887, 888, 1042, 1043                                                                                                                                                                                                   | 16–19, 103,<br>389, 390, 437, 638–640, 688,<br>892–894, 944, 1047–1049, 1098                                                  |
| <code>\@gls@declareoption</code> . . . . .      | 11,<br>12, 13, 20, 23, 24, 30, 33–<br>36, 38, 40, 41, 386, 387, 390–<br>393, 397, 399, 400, 402, 403,<br>636, 637, 640–643, 647, 649,<br>650, 652, 653, 890, 891, 894–<br>897, 901, 903–906, 908, 1045,<br>1046, 1049–1052, 1056, 1058–1063 | <code>\@gls@defsortcount</code> . . .                                                                                         |
| <code>\@gls@default</code> . . . . .            | 117, 444, 695, 952, 1106, 1107                                                                                                                                                                                                              | 16–19, 76,<br>389, 390, 421, 638–640, 671,<br>892–894, 927, 1047–1049, 1081                                                   |
| <code>\@gls@default@value</code> . . . . .      | 71–73, 79, 84, 85,<br>98, 99, 101, 102, 270, 337, 418,<br>419, 422, 425, 426, 434–437,<br>539, 598, 599, 668, 669, 672,<br>675, 676, 684–687, 792, 852,                                                                                     | <code>\@gls@deprecated@acr@warning</code> . .<br>. . . . .                                                                    |
|                                                 |                                                                                                                                                                                                                                             | 271, 785,<br>787, 789, 791, 793, 795, 1037, 1193                                                                              |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@acronymsdef</code> . . . . .                                                                                   |
|                                                 |                                                                                                                                                                                                                                             | 20, 20,<br>45, 46, 77, 390, 391, 404, 421,<br>640, 641, 654, 671, 895, 909,<br>910, 927, 1049, 1050, 1064, 1082               |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@automake@err</code> . . . . .                                                                                  |
|                                                 |                                                                                                                                                                                                                                             | 36, 37, 38, 905, 906, 1060, 1061                                                                                              |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@glsunset</code> . . . . .                                                                                      |
|                                                 |                                                                                                                                                                                                                                             | 124, 124, 141–145,<br>955, 967–969, 1110, 1122–1124                                                                           |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@indexdef</code>                                                                                                |
|                                                 |                                                                                                                                                                                                                                             | 41, 45, 46, 77,<br>403, 404, 421, 653, 654, 671,<br>908–910, 927, 1063, 1064, 1082                                            |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@numbersdef</code>                                                                                              |
|                                                 |                                                                                                                                                                                                                                             | 41, 45, 46, 77,<br>402–404, 421, 653, 654, 671,<br>908–910, 927, 1063, 1064, 1082                                             |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@symbolsdef</code> .                                                                                            |
|                                                 |                                                                                                                                                                                                                                             | 40, 77, 402,<br>421, 652, 671, 908, 927, 1062, 1082                                                                           |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@do@symbolssdef</code> . . . . .                                                                                   |
|                                                 |                                                                                                                                                                                                                                             | 45, 46, 404, 654, 909, 910, 1064                                                                                              |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@doautomake</code> . . . . .                                                                                       |
|                                                 |                                                                                                                                                                                                                                             | 37, 37, 38, 197, 199,<br>401, 491, 492, 651, 743, 744,<br>906, 998, 999, 1061, 1153, 1154                                     |
|                                                 |                                                                                                                                                                                                                                             | <code>\@gls@docheckquotedef</code> . . . . .                                                                                  |

..... 190–193, 485–  
 488, 737–740, 992–994, 1147–1150  
 \@gls@docloadedfalse .....  
 ..... 6, 383, 633, 887, 1042  
 \@gls@docloadedtrue .....  
 ..... 6, 383, 633, 887, 1042  
 \@gls@dodedeflistparser .....  
 ... 199, 492, 743, 998, 999, 1154  
 \@gls@doentrycounterdef .....  
 . 45, 46, 404, 654, 909, 910, 1064  
 \@gls@doentrydef . 450, 451, 701, 702  
 \@gls@dolast .....  
 . 215, 500, 752, 1008, 1163, 1164  
 \@gls@donext .....  
 . 215, 500, 752, 1008, 1163, 1164  
 \@gls@donext@def .....  
 179, 180, 479, 730, 731, 985, 1141  
 \@gls@dodosubentrycounterdef ....  
 .... 45, 46, 404, 654, 910, 1064  
 \@gls@dothiswrite ..... 489,  
 490, 741, 742, 995–997, 1151–1153  
 \@gls@elem ..... 603, 856, 1040  
 \@gls@enablesavenonumberlist ..  
 ..... 82, 88, 423,  
 427, 674, 678, 930, 934, 1084, 1088  
 \@gls@encapchar .....  
 133, 134, 188, 213, 214, 457,  
 458, 484, 499, 500, 583, 586,  
 708, 709, 735, 736, 751, 752,  
 836, 839, 962, 963, 990, 1006,  
 1007, 1116–1118, 1146, 1162, 1163  
 \@gls@entry@count 113, 114, 114,  
 442, 443, 693, 694, 950, 951, 1105  
 \@gls@entry@field ..... 91, 92,  
 112, 138, 169, 170–179, 349–  
 351, 429, 430, 441, 474–478,  
 551, 552, 680, 692, 726–730,  
 804, 805, 936, 949, 980–984,  
 1090, 1091, 1104, 1121, 1135–1140  
 \@gls@escbsdq .... 130, 131, 189,  
 454, 455, 485, 587, 705, 706,  
 736, 737, 840, 959, 991, 1114, 1147  
 \@gls@expand@fields ..... 85,  
 85, 86, 426, 676, 932, 1086, 1087  
 \@gls@expandonce .....  
 ..... 86, 426, 676, 932, 1087  
 \@gls@extramakeindexopts .....  
 ..... 193, 198, 488,  
 491, 740, 743, 994, 998, 1150, 1154  
 \@gls@fetch@lettergrp . 224, 225, 232  
 \@gls@fetchfield ... 73, 90, 419,  
 428, 669, 679, 925, 935, 1080, 1090  
 \@gls@field@link ..... 93,  
 146, 146, 147–161, 364–369,  
 430, 431, 464–470, 564–567,  
 681, 716–721, 817–820, 937,  
 969–975, 1091, 1092, 1125–1131  
 \@gls@fieldaccess@display .....  
 . 353, 354–356, 553–555, 806–808  
 \@gls@firsttok .....  
 ..... 231, 508, 760, 1015, 1171  
 \@gls@fixbraces 104, 214, 437, 500,  
 688, 752, 944, 1007, 1099, 1163  
 \@gls@forbidtext .....  
 . 74, 76, 420, 670, 671, 926, 1081  
 \@gls@fulllist ... 35, 650, 905, 1059  
 \@gls@get@counterprefix .....  
 ..... 213, 499, 751, 1007, 1162  
 \@gls@getbody 172, 475, 726, 981, 1136  
 \@gls@getcounter .....  
 ..... 77, 421, 671, 927, 1082  
 \@gls@getcounterprefix ... 213,  
 213, 497–499, 749–751, 1007, 1162  
 \@gls@getgrouptitle 200, 242, 242,  
 281, 492, 515, 604, 744, 767,  
 857, 1000, 1021, 1041, 1155, 1177  
 \@gls@glossary ..... 205, 205,  
 206, 496, 748, 1003, 1158, 1159  
 \@gls@glslink@hyper@update@hook  
 ..... 123, 123, 955, 1110  
 \@gls@gobbleopt 75, 420, 670, 926, 1081  
 \@gls@grptitle ..... 242,  
 278, 281, 515, 603, 604, 767,  
 856, 857, 1021, 1040, 1041, 1177  
 \@gls@hyp@opt .....  
 . 93, 114–116, 124, 125, 140–  
 168, 251–253, 339–342, 430,  
 431, 443, 451, 461–474, 518,  
 519, 600–602, 681, 694, 702,  
 713–725, 770, 771, 853–855,  
 937, 951, 956, 966–979, 1025,  
 1026, 1091, 1092, 1105, 1106,  
 1110, 1111, 1122–1135, 1181, 1182  
 \@gls@hyp@opt@cs .....  
 124, 125, 451, 702, 956, 1110, 1111  
 \@gls@hypergroup .....  
 ..... 280, 281, 603, 856, 1040  
 \@gls@if@measuring .....  
 ..... 106, 107, 946, 1100, 1101



|                                                         |                                                            |
|---------------------------------------------------------|------------------------------------------------------------|
| <code>\@gls@ifinlist</code> .....                       | <code>\@gls@link@opts</code> .....                         |
| . 58, <u>58</u> , 410, 660, 661, 916, 1071              | 532, 537, 703, 784, 790, 957, 1112                         |
| <code>\@gls@ifnotmeasuring</code> .....                 | <code>\@gls@list</code> ..                                 |
| 439, 690                                                | 603, 604, 856, 857, 1040                                   |
| <code>\@gls@igtype</code> ..                            | <code>\@gls@listsuffix</code> .....                        |
| 78, 422, 672, 928, 1082                                 | ..... 58, 410, 660, 916, 1071                              |
| <code>\@gls@increment@currcount</code> .....            | <code>\@gls@loadlist</code> .....                          |
| ..... 112, <u>113</u> , 441,                            | .. 13, <u>13</u> , 271, 387, 544, 637,                     |
| 442, 692, 693, 949, 950, 1104, 1105                     | 797, 891, 1037, 1045, 1046, 1193                           |
| <code>\@gls@indexdef</code> .....                       | <code>\@gls@loadlong</code> .....                          |
| .... 41, <u>41</u> , 403, 653, 908, 1063                | 12,                                                        |
| <code>\@gls@initnonumberlist</code> .....               | <u>12</u> , 13, 271, 387, 544, 636, 637,                   |
| ... 82, <u>82</u> , 99, 423, 434, 673,                  | 797, 891, 1037, 1045, 1046, 1193                           |
| 674, 685, 929, 930, 941, 1084, 1095                     | <code>\@gls@loadshellesc</code> .....                      |
| <code>\@gls@islistofacronyms</code> .....               | 43–45                                                      |
| ..... 21, 391, 641, 895, 1050                           | <code>\@gls@loadsuper</code> .....                         |
| <code>\@gls@keylist</code> .....                        | 12, <u>12</u> , 13, 272, 387, 544, 637,                    |
| 380, 576, 829                                           | 797, 891, 1037, 1045, 1046, 1193                           |
| <code>\@gls@keymap</code> ...                           | <code>\@gls@loadtree</code> 13, <u>13</u> , 272, 387, 544, |
| 82, 89, <u>89</u> , 90–92,                              | 637, 797, 891, 1037, 1046, 1193                            |
| 337, 347, 424, 427–429, 549,                            | <code>\@gls@local@increment@currcount</code> .....         |
| 598, 674, 678–680, 802, 851,                            | ..... 112, <u>113</u> , 441,                               |
| 930, 934–936, 1085, 1089–1091                           | 442, 692, 693, 949, 950, 1104, 1105                        |
| <code>\@gls@label</code> ...                            | <code>\@gls@loclist</code> .....                           |
| 200, 204, 209, 212,                                     | 201,                                                       |
| 213, 492, 493, 495, 498, 499,                           | 202, 232, 233, 493, 494, 508,                              |
| 744, 747, 749–751, 1000, 1002,                          | 509, 745, 746, 760, 761, 1000,                             |
| 1005, 1006, 1155, 1158, 1161, 1162                      | 1001, 1016, 1156, 1157, 1171, 1172                         |
| <code>\@gls@labelsfile</code> .....                     | <code>\@gls@map</code> .....                               |
| 35, 36, 400, 650, 905, 1059, 1060                       | 89, 90, 427,                                               |
| <code>\@gls@langmod</code> ..                           | 428, 678, 679, 934, 935, 1089, 1090                        |
| 33, 195, 196, 220,                                      | <code>\@gls@missinglang@warn</code> .....                  |
| 489, 490, 741, 742, 903, 995,                           | ..... 23, <u>23</u> , 50, 393,                             |
| 996, 1010, 1058, 1151, 1152, 1166                       | 406, 642, 656, 897, 912, 1051, 1066                        |
| <code>\@gls@levelchar</code> .....                      | <code>\@gls@missingnumberlist</code> .....                 |
| .... 106, 134, 135, 188, 439,                           | ..... 84, 102, 425,                                        |
| 457, 458, 484, 586, 690, 708,                           | 436, 675, 687, 931, 943, 1085, 1098                        |
| 709, 735, 736, 839, 946, 962,                           | <code>\@gls@noaccess</code> .....                          |
| 963, 990, 1100, 1117, 1118, 1146                        | 347, 353, 549, 552, 553, 802, 806                          |
| <code>\@gls@link</code> 125, <u>127</u> , 141–146, 162– | <code>\@gls@noexpand@field</code> .....                    |
| 169, 362–364, 452, 461–464,                             | 84                                                         |
| 470–474, 562, 563, 702, 703,                            | <code>\@gls@noexpand@fields</code> <u>84</u> , 86, 425,    |
| 713–716, 721–726, 815–817,                              | 426, 675, 676, 931, 932, 1086, 1087                        |
| 956, 957, 967–969, 975–980,                             | <code>\@gls@nohyperlist</code> .....                       |
| 1111, 1112, 1122–1125, 1131–1135                        | ..... 22, <u>22</u> , 78, 126, 392,                        |
| <code>\@gls@link@checkfirsthyper</code> ....            | 421, 422, 452, 642, 672, 703,                              |
| ..... <u>126</u> , 140–145,                             | 896, 928, 957, 1051, 1082, 1111                            |
| 452, 461–464, 703, 713–715,                             | <code>\@gls@noidx@do</code> .....                          |
| 956, 966–969, 1111, 1122–1124                           | 231, <u>232</u> ,                                          |
| <code>\@gls@link@label</code> .....                     | 508, 759, 760, 1015, 1016, 1171                            |
| 127, 452,                                               | <code>\@gls@noidx@getgroupptitle</code> .....              |
| 532, 537, 703, 784, 790, 957, 1112                      | ..... 200, <u>243</u> , 492, 515,                          |
| <code>\@gls@link@nocheckfirsthyper</code> ..            | 744, 767, 1000, 1021, 1155, 1177                           |
| ..... 146, <u>146</u> , 161–169,                        | <code>\@gls@noidx@sanitizesort</code> .....                |
| 464, 470–474, 716, 721–725,                             | ..... 25, 203, 394, 494,                                   |
| 969, 975–980, 1125, 1131–1135                           | 643, 746, 898, 1001, 1052, 1157                            |

|                                                |                                                                                                     |                                           |                                                                                                                                      |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <code>\@gls@noidx@setsanitizesort</code>       | 28,<br>28, 203, 396, 494, 645, 646,<br>746, 900, 1001, 1054, 1055, 1157                             | <code>\@gls@prevlevel</code>              | .. 310, 311, 332–<br>334, 593, 594, 619, 620, 631,<br>632, 846, 847, 872, 873, 885, 886                                              |
| <code>\@gls@noidx@loclist@finalsep</code>      | .. 202, 494, 745, 746, 1001, 1156                                                                   | <code>\@gls@provide@newglossary</code>    | 74, 76,<br>420, 670, 671, 925–927, 1080, 1081                                                                                        |
| <code>\@gls@noidx@loclist@prev</code>          | 202, 233,<br>234, 494, 509, 510, 746, 761,<br>762, 1001, 1017, 1156, 1172, 1173                     | <code>\@gls@quotechar</code>              | .....<br>132–135, 188, 190–192, 455–<br>459, 484–487, 586, 707–710,<br>735–739, 839, 960–964, 990,<br>992, 994, 1115–1118, 1146–1150 |
| <code>\@gls@noidx@loclist@sep</code>           | .....<br>..... 202, 233, 234,<br>493, 494, 509, 510, 745, 761,<br>762, 1001, 1017, 1156, 1172, 1173 | <code>\@gls@reference</code>              | .....<br>200, 201, 204, 234, 492, 493,<br>495, 510, 744, 745, 747, 762,<br>1000, 1002, 1017, 1155, 1158, 1173                        |
| <code>\@gls@noist@toolate</code>               | 188, 190, 193,<br>990, 991, 995, 1146, 1147, 1150                                                   | <code>\@gls@removedoption</code>          | .....<br>.... 27, 32, 38, 39, 899, 903,<br>907, 1054, 1057, 1058, 1061, 1062                                                         |
| <code>\@gls@noref@warn</code>                  | . 200, 203, 231,<br>492, 495, 508, 744, 747, 760,<br>999, 1002, 1015, 1155, 1157, 1171              | <code>\@gls@removespaces</code>           | .... 246, 247,<br>517, 769, 1023, 1024, 1179, 1180                                                                                   |
| <code>\@gls@notranslatorhook</code>            | ..... 29                                                                                            | <code>\@gls@renewglossary</code>          | .....<br>..... 194, 206, 488, 496,<br>740, 748, 995, 1003, 1150, 1159                                                                |
| <code>\@gls@numberlink</code>                  | .....<br>..... 246, 517, 769, 1023, 1179                                                            | <code>\@gls@replacementtext</code>        | .....<br>..... 352, 353, 552, 805, 806                                                                                               |
| <code>\@gls@numbersdef</code>                  | .....<br>. 41, 41, 402, 403, 653, 908, 1063                                                         | <code>\@gls@requested@languages</code>    | .....<br>. 31, 31, 48, 902, 911, 1057, 1066                                                                                          |
| <code>\@gls@numlist@lastsep</code>             | .....<br>179, 180, 479, 730, 731, 985, 1141                                                         | <code>\@gls@rest</code>                   | 172, 475, 726, 727, 981, 1137                                                                                                        |
| <code>\@gls@numlist@nextsep</code>             | .....<br>179, 180, 479, 730, 731, 985, 1141                                                         | <code>\@gls@restore@glslocal</code>       | .....<br>.. 124, 128, 955, 957, 1110, 1112                                                                                           |
| <code>\@gls@numlist@sep</code>                 | .....<br>179, 180, 479, 730, 731, 985, 1141                                                         | <code>\@gls@restoreat</code>              | 88, 427, 678, 934, 1088                                                                                                              |
| <code>\@gls@old@chapter</code>                 | .....<br>..... 46, 404, 654, 910, 1065                                                              | <code>\@gls@roman</code>                  | ..... 61, 62, 412,<br>413, 584, 663, 837, 918, 919, 1073                                                                             |
| <code>\@gls@oldnewglossaryentryposthook</code> | ..... 348, 549, 803                                                                                 | <code>\@gls@run@output@dir</code>         | . 37, 38, 42, 44                                                                                                                     |
| <code>\@gls@oldnewglossaryentryprehook</code>  | ..... 347, 348, 549, 802                                                                            | <code>\@gls@run@output@file</code>        | 43, 44, 195, 196                                                                                                                     |
| <code>\@gls@onlypremakeg</code>                | .....<br>. 46, 46, 404, 654, 655, 910, 1065                                                         | <code>\@gls@run@unrestricted@shell</code> | ..<br>..... 42, 43, 195–197                                                                                                          |
| <code>\@gls@order</code>                       | ..... 194–196, 489,<br>490, 740–742, 995–997, 1151–1153                                             | <code>\@gls@runshell</code>               | 42, 42, 43, 44, 195, 196                                                                                                             |
| <code>\@gls@org@LT@output</code>               | .. 299, 612, 866                                                                                    | <code>\@gls@sanitized@tmp</code>          | .....<br>... 130, 454, 455, 705, 959, 1114                                                                                           |
| <code>\@gls@org@glsnoidxdisplayloc</code>      | ..<br>..... 202, 494, 746, 1001, 1157                                                               | <code>\@gls@sanitizedesc</code>           | .....<br>..... 24, 393, 398, 643, 648                                                                                                |
| <code>\@gls@org@glsseeformat</code>            | .....<br>..... 202, 494, 746, 1001, 1157                                                            | <code>\@gls@sanitizename</code>           | .....<br>..... 25, 393, 643, 897, 1052                                                                                               |
| <code>\@gls@override@glossary</code>           | .. 39,<br>40, 401, 402, 652, 907, 908, 1062                                                         | <code>\@gls@sanitizesort</code>           | .. 16, 25, 389,<br>393, 638, 643, 892, 897, 1047, 1052                                                                               |
| <code>\@gls@patchtabularx</code>               | .....<br>..... 108, 439, 690, 947, 1102                                                             | <code>\@gls@sanitizesymbol</code>         | ..... 25,<br>393, 398, 399, 643, 648, 897, 1052                                                                                      |
| <code>\@gls@preglossaryhook</code>             | .....<br>..... 218, 219, 501, 502,<br>753, 754, 1009, 1010, 1165, 1166                              | <code>\@gls@save@glslocal</code>          | .....<br>123, 124, 127, 955, 957, 1110, 1112                                                                                         |

|                                                            |                                                          |
|------------------------------------------------------------|----------------------------------------------------------|
| <code>\@gls@saveentrycounter</code> . . . . .              | <code>\@gls@thislabel</code> 70, 215, 229, 417,          |
| . . . . . 127, <u>128</u> , 181, 453, 479,                 | 500, 507, 668, 752, 759, 923,                            |
| 703, 704, 731, 957, 986, 1112, 1141                        | 1008, 1014, 1078, 1163, 1164, 1170                       |
| <code>\@gls@savenonumberlist</code> . . . . .              | <code>\@gls@thislang</code> . . . . . 48, 911, 1066      |
| . . . . . 81, 82, <u>82</u> , 203, 423, 673,               | <code>\@gls@thislist</code> . . . . .                    |
| 674, 929, 930, 1002, 1084, 1157                            | 179, 180, 479, 730, 731, 985, 1141                       |
| <code>\@gls@see@noindex</code> . . . . .                   | <code>\@gls@thisloc</code> 213, 499, 751, 1007, 1162     |
| . . . . . 9, <u>9</u> , 81, 385, 386,                      | <code>\@gls@thisval</code> . 90, 428, 679, 935, 1090     |
| 423, 635, 673, 889, 929, 1044, 1084                        | <code>\@gls@title</code> . . . 54, 408, 658, 914, 1068   |
| <code>\@gls@setacrstyle</code> . . . . .                   | <code>\@gls@tmp</code> 8, 18, 49, 61, 63, 86, 130,       |
| . . . . . 32, 45, 398, 399, 403, 404,                      | 206, 247, 385, 390, 405, 413,                            |
| 648, 654, 902, 909, 910, 1057, 1064                        | 426, 454, 455, 496, 603, 604,                            |
| <code>\@gls@setcounter</code> . . . . .                    | 634, 639, 656, 663, 664, 676,                            |
| 76, <u>77</u> , 421, 671, 927, 1081, 1082                  | 705, 748, 857, 889, 894, 911,                            |
| <code>\@gls@setdefault@glslink@opts</code> .               | 918, 919, 932, 959, 1003, 1024,                          |
| . . . . . <u>126</u> , 127, 452, 703, 957, 1112            | 1040, 1041, 1043, 1048, 1066,                            |
| <code>\@gls@setsort</code> . . . . . 16–19,                | 1073, 1074, 1087, 1114, 1159, 1179                       |
| 127, 181, 389, 390, 453, 479,                              | <code>\@gls@tmpb</code> . . . 131, <u>131</u> , 132–137, |
| 638–640, 703, 731, 893, 894,                               | 190–192, 455–460, 485–487,                               |
| 957, 986, 1047–1049, 1112, 1141                            | 706–712, 737–739, 960–965,                               |
| <code>\@gls@setupshortcuts</code> . . . . .                | 992, 994, 1115–1120, 1148–1150                           |
| 45, 403, 404, 654, 909, 910, 1064                          | <code>\@gls@toc</code> . . . . . 56, <u>57</u> ,         |
| <code>\@gls@setupsort@clear</code> . <u>18</u> , 894, 1049 | 409, 410, 659, 660, 915, 1069, 1070                      |
| <code>\@gls@setupsort@def</code> . . . . .                 | <code>\@gls@type</code> . . . 197, 199, 256, 331,        |
| . . . . . <u>17</u> , 389, 639, 893, 1048                  | 491, 492, 521, 531, 533, 535,                            |
| <code>\@gls@setupsort@none</code> . . . . .                | 536, 538, 541, 542, 544, 630,                            |
| . . . . . <u>18</u> , 390, 640, 894, 1048                  | 743, 744, 773, 783, 786, 787,                            |
| <code>\@gls@setupsort@standard</code> . . . . .            | 789, 791, 794, 795, 797, 884,                            |
| <u>16</u> , 388, 389, 638, 892, 893, 1047                  | 997, 999, 1028, 1153, 1154, 1184                         |
| <code>\@gls@setupsort@use</code> . . . . .                 | <code>\@gls@updatechecked</code> . . . 130, 131,         |
| . . . . . <u>17</u> , 389, 639, 893, 1048                  | <u>131</u> , 191, 192, 454, 455, 486,                    |
| <code>\@gls@sort</code> . . . . .                          | 487, 705, 706, 738, 739, 959,                            |
| 224, 225, 232, 509, 761, 1016, 1172                        | 960, 993, 1114, 1115, 1148, 1149                         |
| <code>\@gls@sort@A</code> . . . . . 227,                   | <code>\@gls@usetranslator</code> <u>29</u> , 30, 31, 49, |
| 228, 505, 757, 1012, 1013, 1168                            | 397, 398, 405, 646, 647, 655,                            |
| <code>\@gls@sort@B</code> . . . . . 227,                   | 901, 902, 911, 1055–1057, 1066                           |
| 228, 505, 757, 1012, 1013, 1168                            | <code>\@gls@value</code> . . . . . 84,                   |
| <code>\@gls@startswithexpandonce</code> . . . .            | 85, 175, 425, 426, 476, 675,                             |
| . . . . . 85, <u>86</u> , 426, 676, 932, 1087              | 676, 728, 931, 932, 983, 1086, 1138                      |
| <code>\@gls@storenonumberlist</code> . . . . .             | <code>\@gls@warnonglossdefined</code> . . . . .          |
| . . . . . 82, 102, 423, 436,                               | . . . . . 24, <u>24</u> , 216, 393, 501,                 |
| 673, 674, 687, 930, 943, 1084, 1098                        | 643, 753, 897, 1008, 1052, 1164                          |
| <code>\@gls@symbolsdef</code> . . . . .                    | <code>\@gls@warnontheGLOSSdefined</code> . . . . .       |
| . . . . . 40, <u>40</u> , 402, 652, 908, 1062              | . . . . . 24, <u>24</u> , 239, 393, 513,                 |
| <code>\@gls@this</code> . 207, 497, 749, 1004, 1159        | 643, 765, 897, 1020, 1052, 1176                          |
| <code>\@gls@thisHloc</code> . . . . .                      | <code>\@gls@write@entrycounts</code> . . . . .           |
| . . . . . 213, 499, 751, 1007, 1162                        | 113, <u>114</u> , 442, 443, 693, 950, 1105               |
| <code>\@gls@thisentryname</code> . . . . .                 | <code>\@gls@writedef</code> . . . . . 88, <u>89</u> ,    |
| . . . . . 35, 36, 650, 905, 1059, 1060                     | 427, 677, 678, 933, 934, 1088, 1089                      |
| <code>\@gls@thisfield</code> 73, 419, 669, 925, 1080       |                                                          |

|                                                            |                                                          |
|------------------------------------------------------------|----------------------------------------------------------|
| <code>\@gls@writeisthook</code> .....                      | <code>\@glsdesc</code> ... 151, 466, 718, 971, 1127      |
| ..... 188, 190, <u>190</u> , 484,                          | <code>\@glsdesc@</code> ..... 151,                       |
| 485, 735, 737, 990–992, 1146, 1147                         | 366, 466, 565, 718, 818, 971, 1127                       |
| <code>\@gls@x</code> 246, 247, 769, 1024, 1179, 1180       | <code>\@glsdescplural</code> .....                       |
| <code>\@gls@xdy@Lclass@Alpha-page-numbers</code>           | ... 152, 466, 718, 971, 972, 1127                        |
| ..... <u>62</u>                                            | <code>\@glsdescplural@</code> ..... 152,                 |
| <code>\@gls@xdy@Lclass@Appendix-page-numbers</code>        | 366, 466, 565, 718, 818, 972, 1127                       |
| ..... <u>62</u>                                            | <code>\@glsdisp</code> .....                             |
| <code>\@gls@xdy@Lclass@Roman-page-numbers</code>           | 145, <u>145</u> , 146, 464, 715, 969, 1124               |
| ..... <u>62</u>                                            | <code>\@glsentry</code> ..... 35,                        |
| <code>\@gls@xdy@Lclass@alpha-page-numbers</code>           | 36, 110, 111, 114, 400, 440,                             |
| ..... <u>62</u>                                            | 441, 443, 650, 691–694, 905,                             |
| <code>\@gls@xdy@Lclass@arabic-page-numbers</code>          | 948–951, 1059, 1060, 1103, 1105                          |
| ..... <u>62</u>                                            | <code>\@glsentrytitlecase</code> .....                   |
| <code>\@gls@xdy@Lclass@arabic-section-numbers</code>       | 175, <u>175</u> , 476, 477, 728, 983, 1138               |
| ..... <u>62</u>                                            | <code>\@glsfirst</code> 147, 465, 716, 969, 970, 1125    |
| <code>\@gls@xdy@Lclass@roman-page-numbers</code>           | <code>\@glsfirst@</code> ..... 147,                      |
| ..... <u>61</u>                                            | 365, 465, 564, 716, 817, 970, 1125                       |
| <code>\@gls@xdy@locationlist</code> .....                  | <code>\@glsfirstletter</code> .....                      |
| . <u>61</u> , 185, 412, 481, 482, 662,                     | 183, <u>183</u> , 480, 732, 986, 987, 1142               |
| 733, 918, 988, 1073, 1143, 1144                            | <code>\@glsfirstplural</code> .....                      |
| <code>\@gls@xdy@checkbackslash</code> .....                | ..... 149, 465, 717, 970, 1126                           |
| ..... 130, <u>137</u> , 454, 460,                          | <code>\@glsfirstplural@</code> .... 149, 365,            |
| 705, 711, 712, 959, 965, 1114, 1120                        | 365, 465, 564, 717, 817, 970, 1126                       |
| <code>\@gls@xdy@checkquote</code> .....                    | <code>\@glshypernumber</code> ..... 245, <u>245</u> ,    |
| 130, <u>136</u> , 454, 459, 705, 711,                      | 517, 768, 769, 1023, 1178, 1179                          |
| 959, 964, 965, 1114, 1119, 1120                            | <code>\@glsisacronymlistfalse</code> .....               |
| <code>\@gls@xref</code> .....                              | ..... 22, 392, 641, 896, 1050                            |
| .. 214, 500, 751, 752, 1007, 1163                          | <code>\@glsisacronymlisttrue</code> .....                |
| <code>\@gls@Alphacompositor</code> .....                   | ..... 22, 392, 641, 896, 1050                            |
| ... 52, <u>52</u> , 62, 407, 413, 584,                     | <code>\@glslink</code> 107, 108, 127, 139, <u>139</u> ,  |
| 657, 663, 838, 913, 919, 1068, 1074                        | 140, 180, 278, 453, 460, 461,                            |
| <code>\@gls@Hlocref</code> .. 209, 212, 497, 498,          | 479, 603, 704, 712, 713, 731,                            |
| 749, 750, 1005, 1006, 1160, 1161                           | 856, 946, 947, 957, 966, 986,                            |
| <code>\@gls@acronymlists</code> ..... 21,                  | 1040, 1101, 1112, 1121, 1122, 1141                       |
| <u>21</u> , 22, 67, 254, 256, 276, 391,                    | <code>\@glslocalreset</code> 109, <u>110</u> , 112, 440, |
| 392, 416, 520, 521, 531, 533–                              | 441, 690–692, 947–949, 1102–1104                         |
| 536, 538, 540–542, 544, 546,                               | <code>\@glslocalunset</code> 109, <u>109</u> , 112, 440, |
| 641, 666, 772, 773, 783, 785–                              | 441, 691, 692, 948, 949, 1103, 1104                      |
| 787, 789, 791, 793–795, 797,                               | <code>\@glslocref</code> .....                           |
| 799, 895, 896, 922, 1027, 1028,                            | 204, 209, 211–213, 495, 497–                             |
| 1039, 1050, 1077, 1182–1184, 1195                          | 499, 583, 747, 749–751, 836,                             |
| <code>\@gls@addkey</code> 91, 92, 429, 680, 936, 1091      | 1002, 1005, 1006, 1158, 1160–1162                        |
| <code>\@gls@addstoragekey</code> .....                     | <code>\@glsminrange</code> ..... 184, <u>184</u> ,       |
| 91, 429, 679, 680, 935, 936, 1090                          | 185, 481, 482, 584, 585, 732–                            |
| <code>\@gls@addxdyattribute</code> .....                   | 734, 837, 838, 987, 988, 1143, 1144                      |
| 59, 60, 411, 661, 917, 1071, 1072                          | <code>\@glsname</code> ... 150, 466, 717, 971, 1126      |
| <code>\@gls@defaultplural</code> .... <u>84</u> , 425, 675 | <code>\@glsname@</code> ..... 150,                       |
| <code>\@gls@defaultsort</code> ... 16, <u>84</u> , 389,    | 366, 466, 564, 717, 818, 971, 1126                       |
| 425, 638, 675, 892, 931, 1047, 1086                        |                                                          |

|                                                             |                                                           |
|-------------------------------------------------------------|-----------------------------------------------------------|
| <code>\@glsnavhypertarget</code> . . . . .                  | <code>\@glssymbolplural</code> . . . . .                  |
| . . . . . 280, <u>280</u> , 603, 856, 1040                  | . . . . . 154, 467, 719, 972, 1128                        |
| <code>\@glsnextpages</code> 219, <u>237</u> , 502, 512,     | <code>\@glssymbolplural@</code> . . . . . 154,            |
| 754, 763, 1010, 1019, 1165, 1175                            | <u>367</u> , 467, 565, 719, 818, 972, 1128                |
| <code>\@glsnodesc</code> . . . . . <u>83</u> , 98,          | <code>\@glstarget</code> 139, <u>139</u> , 140, 239, 280, |
| 100, 102, 424, 434, 437, 675,                               | 461, 513, 603, 712, 713, 765,                             |
| 684, 685, 687, 931, 940, 941,                               | 856, 966, 1020, 1040, 1122, 1176                          |
| 943, 944, 1085, 1095, 1096, 1098                            | <code>\@glstext</code> . . . 146, 464, 716, 969, 1125     |
| <code>\@glsnoname</code> . . . . .                          | <code>\@glstext@</code> . . . . . 146,                    |
| <u>83</u> , 98, 101, 102, 424, 434–436,                     | <u>364</u> , 464, 564, 716, 817, 969, 1125                |
| 674, 684, 686, 687, 930, 940,                               | <code>\@glsunset</code> . . . 109, <u>109</u> , 112, 440, |
| 942, 943, 1085, 1095, 1097, 1098                            | 441, 691, 692, 948, 949, 1102–1104                        |
| <code>\@glsnonextpages</code> 219, <u>237</u> , 502, 511,   | <code>\@glsuseri</code> . . 155, 467, 719, 973, 1128      |
| 754, 763, 1010, 1019, 1165, 1174                            | <code>\@glsuseri@</code> . . . . . 155,                   |
| <code>\@glsnumberformat</code> . . . . .                    | <u>367</u> , 467, 566, 719, 819, 973, 1128                |
| 123, 127, 180, 181, 204, 212,                               | <code>\@glsuserii</code> . . 156, 468, 719, 973, 1129     |
| 213, 451, 452, 479, 495, 499,                               | <code>\@glsuserii@</code> . . . . . 156,                  |
| 583, 702, 703, 731, 747, 750,                               | <u>368</u> , 468, 566, 719, 819, 973, 1129                |
| 751, 836, 955, 957, 986, 1002,                              | <code>\@glsuseriii</code> . . . . .                       |
| 1006, 1110, 1112, 1141, 1158, 1162                          | . . . 157, 468, 720, 973, 974, 1129                       |
| <code>\@glsopenfile</code> . . . . .                        | <code>\@glsuseriii@</code> . . . . . 157,                 |
| 194, <u>194</u> , 205, 488, 496, 740,                       | <u>368</u> , 468, 566, 720, 819, 974, 1129                |
| 747, 995, 1003, 1150, 1151, 1158                            | <code>\@glsuseriv</code> . . . . .                        |
| <code>\@glsorder</code> . . . . . <u>33</u> , 198, 399,     | . . 158, 468, 720, 974, 1129, 1130                        |
| 491, 648, 743, 903, 998, 1058, 1154                         | <code>\@glsuseriv@</code> . . . . . 158,                  |
| <code>\@glspl</code> . . 142, 143, 462, 714, 967, 1123      | <u>368</u> , 469, 566, 720, 819, 974, 1130                |
| <code>\@glspl@</code> . . . . . 113, 115, 143, <u>143</u> , | <code>\@glsuserv</code> . . 159, 469, 720, 974, 1130      |
| 340–342, 442, 443, 462, 600–                                | <code>\@glsuserv@</code> . . . . . 159,                   |
| 602, 693, 694, 714, 854, 855,                               | <u>369</u> , 469, 566, 721, 820, 974, 1130                |
| 950, 951, 967, 1105, 1106, 1123                             | <code>\@glsuservi</code> . . 160, 469, 721, 975, 1130     |
| <code>\@glsplural</code> . . . . .                          | <code>\@glsuservi@</code> . . . . . 160,                  |
| . . 148, 465, 717, 970, 1125, 1126                          | <u>369</u> , 469, 567, 721, 820, 975, 1130                |
| <code>\@glsplural@</code> . . . . . 148,                    | <code>\@glswidestname</code> 331, <u>331</u> , 332, 333,  |
| <u>365</u> , 465, 564, 717, 817, 970, 1126                  | 593, 594, 631, 632, 847, 884, 885                         |
| <code>\@glsprefix@record@hook</code> . . 339,               | <code>\@glswritefiles</code> 38, <u>204</u> , 401, 495,   |
| <u>339</u> , 340–343, 600–602, 853–856                      | 651, 747, 906, 1002, 1061, 1158                           |
| <code>\@glsreset</code> . . . 108, <u>110</u> , 112, 439–   | <code>\@glsxtr@doaccsupp</code> . . . . 344, 546, 800     |
| 441, 690–692, 947–949, 1102–1104                            | <code>\@glsxtr@record</code> . . . . . 339, 600, 853      |
| <code>\@glssee</code> . . . . . 104, 214, 437, 500,         | <code>\@gobble</code> . . . . . 7, 16–18, 34–36, 89,      |
| 688, 752, 944, 1008, 1099, 1163                             | 107, 130, 182, 183, 186, 198,                             |
| <code>\@glsshowaccsupp</code> . . . . .                     | 200, 285, 384, 389, 390, 399,                             |
| . . . . . 7, <u>9</u> , 345, 384, 385, 547,                 | 400, 427, 428, 439, 454, 480,                             |
| 634, 635, 800, 888, 889, 1042, 1043                         | 482, 483, 491, 492, 582, 585,                             |
| <code>\@glsshowtarget</code> . . . . .                      | 586, 633, 634, 638–640, 649,                              |
| . . . . . 7, 8, <u>8</u> , 384, 385, 460,                   | 650, 678, 679, 690, 705, 731,                             |
| 633, 634, 712, 887–889, 1042, 1043                          | 732, 734, 743, 744, 835, 838,                             |
| <code>\@glssymbol</code> . . . . .                          | 839, 859, 887, 888, 893, 894,                             |
| . . 153, 467, 718, 972, 1127, 1128                          | 904, 905, 934, 935, 946, 959,                             |
| <code>\@glssymbol@</code> . . . . . 153,                    | 986, 989, 998, 999, 1042, 1047,                           |
| <u>367</u> , 467, 565, 718, 818, 972, 1128                  |                                                           |

|                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1048, 1059, 1060, 1089, 1101,<br>1114, 1142, 1144, 1145, 1154, 1155                                                                                                                                                                                                                                         | \@mkboth . . . . .                                                                                                                                                                                                                                                                                                                                                                                |
| \@gobblethree . . . . . 7, 384, 634, 888, 1042                                                                                                                                                                                                                                                              | 55, 408, 409, 658, 659, 914, 1069                                                                                                                                                                                                                                                                                                                                                                 |
| \@idxitem . . . . . 326, 627, 881                                                                                                                                                                                                                                                                           | \@one . . . . . 107, 946, 1101                                                                                                                                                                                                                                                                                                                                                                    |
| \@ifclassloaded . . . . . 6, 14, 55,<br>383, 387, 408, 633, 637, 658,<br>887, 891, 914, 1042, 1046, 1069                                                                                                                                                                                                    | \@newglossary . . . . . 74, 76, <u>77</u> , 420,<br>421, 670, 671, 926, 927, 1080–1082                                                                                                                                                                                                                                                                                                            |
| \@ifglossaryexists . . . . .<br>. . . . . 67, <u>68</u> , 216, 416, 501, 666,<br>667, 753, 922, 1008, 1077, 1164                                                                                                                                                                                            | \@newglossaryentry@defcounters<br>. . . . . 103, <u>104</u> , 111, 437, 438,<br>441, 688, 692, 944, 949, 1099, 1104                                                                                                                                                                                                                                                                               |
| \@ifl@t@r . . . . . 27, 395, 645, 899, 1054                                                                                                                                                                                                                                                                 | \@newglossaryentryposthook . . . . .<br>. . . . . 91, 92,<br>103, <u>104</u> , 337, 348, 429, 437,<br>438, 549, 599, 680, 688, 803,<br>852, 936, 944, 1090, 1091, 1099                                                                                                                                                                                                                            |
| \@ifnextchar . . . . . 76, 124, 421,<br>451, 671, 702, 927, 956, 1081, 1110                                                                                                                                                                                                                                 | \@newglossaryentryprehook . . . . .<br>. . . . . 91, 92, 97, 99, <u>104</u> ,<br>337, 347, 348, 429, 433, 434,<br>438, 549, 598, 680, 684, 685,<br>688, 802, 852, 936, 940, 941,<br>944, 1090, 1091, 1095, 1096, 1099                                                                                                                                                                             |
| \@ifpackageloaded . . . . . 6,<br>11, 12, 29–31, 49, 66, 107, 179,<br>190, 343, 383, 386, 397, 398,<br>405, 415, 439, 478, 485, 546,<br>633, 636, 646–648, 655, 666,<br>690, 730, 737, 799, 887, 890,<br>891, 901, 902, 911, 921, 946,<br>985, 992, 1042, 1045, 1055–<br>1057, 1066, 1076, 1101, 1140, 1147 | \@nil . . . . . 21, 104,<br>129–131, 172, 191, 192, 212,<br>214, 225, 231, 245–247, 392,<br>437, 454, 455, 475, 486, 487,<br>499, 500, 508, 509, 517, 583,<br>641, 688, 705, 706, 726, 738,<br>739, 750, 752, 760, 761, 768,<br>769, 836, 896, 944, 958–960,<br>981, 993, 1006, 1007, 1015,<br>1016, 1023, 1024, 1050, 1099,<br>1113–1115, 1136, 1148, 1149,<br>1162, 1163, 1171, 1172, 1178–1180 |
| \@ifstar . . . . . 67, 75, 91, 124,<br>183, 248, 416, 420, 429, 451,<br>480, 518, 666, 670, 679, 680,<br>702, 732, 770, 922, 926, 935,<br>936, 956, 986, 987, 1024, 1077,<br>1081, 1090, 1091, 1110, 1142, 1180                                                                                             | \@nnil . . . . . 21, 215, 392, 500,<br>641, 752, 896, 1008, 1050, 1163                                                                                                                                                                                                                                                                                                                            |
| \@ifundefined . . . . . 48, 289,<br>300, 312, 319, 333, 405, 594,<br>603, 607, 613, 620, 624, 631,<br>632, 655, 847, 856, 861, 867,<br>873, 874, 877, 878, 885, 911, 1065                                                                                                                                   | \@no@makeglossaries . . . . .<br>. . . . . 34, 35, 199, 201, <u>203</u> ,<br>399, 400, 492, 493, 495, 649,<br>743, 745, 747, 904, 999, 1000,<br>1002, 1058, 1059, 1154, 1156, 1157                                                                                                                                                                                                                |
| \@ignored@glossaries . . . . . 35,<br>77, 78, <u>78</u> , 400, 421, 422, 650,<br>671, 672, 905, 927, 928, 1059, 1082                                                                                                                                                                                        | \@no@post@desc . . . . .<br>. . . . . <u>51</u> , 407, 588, 657, 841, 912, 1067                                                                                                                                                                                                                                                                                                                   |
| \@input@ . . . . . 220, 503, 754, 1010, 1166                                                                                                                                                                                                                                                                | \@nopostdesc . . . . . <u>50</u> , 219, 406, 502,<br>657, 754, 912, 1010, 1067, 1165                                                                                                                                                                                                                                                                                                              |
| \@istfilename . . . . . <u>51</u> , 198, 407,<br>491, 657, 743, 913, 998, 1067, 1154                                                                                                                                                                                                                        | \@onelevel@sanitize . . . . .<br>. . . . . 8, 25, 35, 61, 89, 106,<br>130, 183, 187, 214, 216, 231,<br>247, 385, 394, 413, 427, 439,<br>454, 455, 480, 481, 483, 500,<br>501, 508, 584, 585, 634, 643,<br>644, 650, 663, 678, 689, 705,<br>732, 735, 751, 753, 760, 837,                                                                                                                          |
| \@makecol . . . . . 299, 612, 613, 866                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                   |
| \@makeglossaries@warn@noprintglossary<br>. . . . . 199,<br><u>199</u> , 743, 744, 998, 999, 1154, 1155                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                   |
| \@makeglossary . . . . .<br>. . . . . 34, 35, <u>194</u> , 198, 399, 400,<br>488, 491, 649, 650, 740, 743,<br>904, 995, 998, 1059, 1150, 1154                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                   |
| \@minus . . . . . 285, 306,<br>325, 606, 616, 627, 859, 870, 881                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                   |

839, 889, 898, 905, 918, 934,  
 945, 959, 987, 989, 1007, 1008,  
 1015, 1024, 1043, 1052, 1060,  
 1073, 1089, 1100, 1114, 1142,  
 1143, 1145, 1163, 1164, 1171, 1179  
 \@onlypreamble 76, 87, 98, 113, 117,  
 199, 203, 421, 427, 433, 442,  
 444, 492, 494, 671, 677, 684,  
 693, 695, 744, 746, 927, 933,  
 940, 950, 952, 999, 1002, 1082,  
 1087, 1095, 1105, 1107, 1154, 1157  
 \@onlypremakeg . 46, 51, 52, 59, 60,  
 63, 77, 190, 404, 407, 411, 414,  
 421, 485, 654, 657, 661, 662,  
 664, 671, 737, 910, 913, 916,  
 917, 920, 927, 992, 1065, 1067,  
 1068, 1071, 1072, 1074, 1082, 1147  
 \@org@Gls@acentryname 171, 981, 1136  
 \@org@Glossaryentrynumbers . . . . .  
 . . . . . 218, 219,  
 502, 754, 1009, 1010, 1165, 1166  
 \@org@Gls@assign@descplural . . . . .  
 . . . . . 531, 538,  
 540, 542, 576, 579, 580, 783,  
 790, 791, 793, 795, 830, 832, 833  
 \@org@Gls@assign@firstpl . . . . .  
 . . . . . 531–534, 536,  
 538, 540–542, 576–580, 782,  
 783, 785–791, 793, 795, 829–833  
 \@org@Gls@assign@plural 531–534,  
 536, 538, 540–542, 576–580,  
 783, 785–791, 793, 795, 830–833  
 \@org@Gls@assign@symbolplural . . . . .  
 . . . . . 531–534, 536,  
 540–542, 577, 578, 580, 783,  
 785–789, 793, 795, 830, 831, 833  
 \@org@Gls@numberformat . . . . .  
 . . . . . 179, 478, 730, 985, 1140  
 \@org@newglossaryentryprehook . . . . .  
 . . . . . 97, 433, 684, 940, 1095  
 \@outputpage . . . . . 299, 612, 613, 866  
 \@p@glossarysection . 54, 56, 408,  
 409, 658, 659, 914, 915, 1068, 1069  
 \@pgls . . . . . 339, 339, 600, 853  
 \@pgls@ . . . . . 339, 339, 600, 853  
 \@pglsp . . . . . 340, 340, 600, 853  
 \@pglsp@ . . . . . 340, 340, 600, 853  
 \@plus . . . . . 285, 306,  
 325, 606, 616, 627, 859, 870, 881  
 \@print@glossary 217, 220, 501, 503,  
 753, 754, 1009, 1010, 1164, 1166  
 \@print@noidx@glossary . . . . .  
 . . . . . 217, 230, 501, 507,  
 753, 759, 1009, 1015, 1165, 1170  
 \@printgloss@checkexists . . . . .  
 . . . . . 217, 217, 218, 501,  
 502, 753, 754, 1009, 1164, 1165  
 \@printgloss@checkexists@allowignored  
 . . . . . 217, 501, 753, 1009, 1164  
 \@printgloss@checkexists@noignored  
 . . . . . 216, 217,  
 501, 753, 1008, 1009, 1164, 1165  
 \@printgloss@setsort . . . . .  
 199, 201, 217, 218, 492, 493,  
 501, 502, 743, 745, 753, 754,  
 999, 1000, 1009, 1154, 1156, 1165  
 \@printglossary . . . . . 217,  
 218, 501, 753, 1009, 1164, 1165  
 \@roman 61, 412, 584, 663, 837, 918, 1073  
 \@secondofthree 124, 140, 141, 144,  
 162, 164, 166, 168, 362, 451,  
 461–463, 470–472, 474, 562,  
 702, 713, 715, 722–725, 815,  
 956, 966–968, 976–979, 1110,  
 1122, 1124, 1131, 1132, 1134, 1135  
 \@secondoftwo . . . . . 26, 29–  
 31, 49, 89, 90, 107, 139–142,  
 145, 161–163, 165–167, 208,  
 285, 335, 362–364, 394, 395,  
 397, 398, 405, 427, 428, 461,  
 462, 464, 470, 472, 473, 562,  
 563, 581, 598, 644, 646–648,  
 655, 678, 679, 712–715, 721,  
 722, 724, 815–817, 834, 851,  
 859, 898, 899, 901, 902, 911,  
 934, 935, 946, 947, 966, 967,  
 969, 975, 976, 978, 1005, 1053,  
 1055–1057, 1066, 1089, 1090,  
 1101, 1122–1124, 1131–1134, 1160  
 \@set@glo@numformat . . . . .  
 129, 213, 454, 499, 583, 705,  
 751, 836, 958, 1006, 1113, 1162  
 \@sglsaddkey 91, 92, 429, 680, 936, 1091  
 \@sglsaddstoragekey . . . . .  
 . . . . . 91, 429, 679, 935, 1090  
 \@tabacckludge 26, 394, 644, 898, 1053  
 \@text@composite@x . . . . .  
 . . . . . 26, 394, 644, 898, 1053

|                                                 |                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\@thirdofthree</code> . . .               | 125, 142, 144,<br>163, 165, 167, 169, 363, 451,<br>462, 463, 470, 472–474, 562,<br>702, 714, 715, 722–724, 726,<br>816, 956, 967, 968, 976–978,<br>980, 1111, 1123, 1124, 1132–1135 | 664, 734, 838, 920, 989, 1075, 1144                                                                                                                                                                                                                                                   |
| <code>\@this@attr</code> . . . . .              | 186, 482, 483, 734, 989, 1144, 1145                                                                                                                                                 | <code>\@xdylocref</code> .                                                                                                                                                                                                                                                            |
| <code>\@this@childlabel</code> . . . . .        | 226, 504, 756, 1011, 1167                                                                                                                                                           | 58, 59, 188, 410, 411,<br>483, 582, 586, 660, 661, 735,<br>835, 839, 916, 917, 990, 1071, 1145                                                                                                                                                                                        |
| <code>\@this@counter</code> . . . . .           | 60, 411, 661, 917, 1072                                                                                                                                                             | <code>\@xdynumbergrouporder</code> . . . . .                                                                                                                                                                                                                                          |
| <code>\@this@ctr</code> . . . . .               | 186, 482, 734, 989, 1144                                                                                                                                                            | 66,<br>183, 183, 416, 480, 481, 666,<br>732, 922, 987, 1076, 1142, 1143                                                                                                                                                                                                               |
| <code>\@this@key</code> . . . . .               | 90, 428, 679, 935, 1090                                                                                                                                                             | <code>\@xdyrequiredstyles</code> . . . . .                                                                                                                                                                                                                                            |
| <code>\@this@label</code> . . . . .             | 225, 504, 755, 756, 1011, 1167                                                                                                                                                      | . . . . .                                                                                                                                                                                                                                                                             |
| <code>\@this@scs</code> . . . . .               | 46, 404, 405, 655, 910, 1065                                                                                                                                                        | 64, 65, 184, 415, 481, 583,<br>665, 733, 837, 921, 987, 1075, 1143                                                                                                                                                                                                                    |
| <code>\@tmp</code> . . . . .                    | 413, 584, 837                                                                                                                                                                       | <code>\@xdysortrules</code> . . . . .                                                                                                                                                                                                                                                 |
| <code>\@use@option</code> . . . . .             | 42, 403, 653, 909, 1064                                                                                                                                                             | . . . . .                                                                                                                                                                                                                                                                             |
| <code>\@warn@nomakeglossaries</code> . . . . .  | 197, 221, 491, 503,<br>742, 755, 997, 1011, 1153, 1166                                                                                                                              | 64, 64, 188, 414, 484, 586,<br>665, 735, 839, 920, 990, 1075, 1146                                                                                                                                                                                                                    |
| <code>\@wrglossary@pageformat</code> . . . . .  | 208, 208, 497, 749, 1004, 1160                                                                                                                                                      | <code>\@xdystyle</code> . . . . .                                                                                                                                                                                                                                                     |
| <code>\@wrglossarynumberhook</code> . . . . .   | 208, 208, 211, 497, 498,<br>749, 750, 1004, 1006, 1160, 1161                                                                                                                        | 184, 481,<br>583, 584, 733, 837, 987, 988, 1143                                                                                                                                                                                                                                       |
| <code>\@write@glslabelsname</code> . . . . .    | 36, 36, 650, 905, 1060                                                                                                                                                              | <code>\@xdyuseralphabets</code> . . . . .                                                                                                                                                                                                                                             |
| <code>\@xdy@main@language</code> . . . . .      | 33, 33, 399, 489, 490,<br>503, 649, 741, 742, 755, 903, 1058                                                                                                                        | . . . . .                                                                                                                                                                                                                                                                             |
| <code>\@xdy@attributelist</code> . . . . .      | 58, 59, 60, 186,<br>410, 411, 482, 660, 661, 734,<br>916, 917, 989, 1071, 1072, 1144                                                                                                | 61, 61, 185, 412, 481, 584,<br>662, 733, 837, 918, 988, 1073, 1143                                                                                                                                                                                                                    |
| <code>\@xdy@attributes</code> . . . . .         | 58,<br>59, 60, 185, 410, 411, 481, 582,<br>584, 660, 661, 733, 835, 837,<br>916, 917, 988, 1070–1072, 1143                                                                          | <code>\@xdyuserlocationdefs</code> . . . . .                                                                                                                                                                                                                                          |
| <code>\@xdy@counters</code> . . . . .           | 58, 60, 186,<br>410, 411, 482, 660, 661, 734,<br>916, 917, 989, 1071, 1072, 1144                                                                                                    | . . . . .                                                                                                                                                                                                                                                                             |
| <code>\@xdy@crossrefhook</code> . . . . .       | 63, 186, 413,<br>482, 664, 734, 919, 989, 1074, 1144                                                                                                                                | 62, 63, 186, 413, 414,<br>482, 582, 585, 663, 664, 734,<br>836, 838, 919, 920, 988, 1074, 1144                                                                                                                                                                                        |
| <code>\@xdy@language</code> . . . . .           | 65, 220, 415, 503,<br>665, 755, 921, 1010, 1076, 1166                                                                                                                               | <code>\@xdyuserlocationnames</code> . . . . .                                                                                                                                                                                                                                         |
| <code>\@xdy@lettergroups</code> . . . . .       | 66,<br>66, 188, 416, 484, 586, 666,<br>735, 839, 921, 922, 990, 1076, 1146                                                                                                          | . . . . .                                                                                                                                                                                                                                                                             |
| <code>\@xdy@locationclassorder</code> . . . . . | 63, 64, 186, 414, 482, 585,                                                                                                                                                         | 63, 63, 64, 413, 414, 583,<br>663, 664, 836, 919, 920, 1074, 1075                                                                                                                                                                                                                     |
|                                                 |                                                                                                                                                                                     | <code>\@xfor@nextelement</code> . . . . .                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | . . . . .                                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 215, 500, 752, 1008, 1163                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | <code>\@xp@gl@getcounterprefix</code> . . . . .                                                                                                                                                                                                                                       |
|                                                 |                                                                                                                                                                                     | 209,<br>212, 213, 1005, 1006, 1161, 1162                                                                                                                                                                                                                                              |
|                                                 |                                                                                                                                                                                     | <code>\@xp@glshypernumber</code> . . . . .                                                                                                                                                                                                                                            |
|                                                 |                                                                                                                                                                                     | . . . . .                                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 245, 245, 1023, 1178                                                                                                                                                                                                                                                                  |
|                                                 |                                                                                                                                                                                     | <code>\@</code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 104, 105,<br>130, 136, 182, 189, 245, 246,<br>438, 454, 480, 484, 485, 517,<br>586, 587, 589, 590, 596, 597,<br>689, 705, 710, 711, 732, 736,<br>769, 839, 840, 842, 843, 849,<br>850, 945, 959, 964, 986, 990,<br>991, 1023, 1024, 1099, 1100,<br>1114, 1119, 1142, 1146, 1147, 1179 |
|                                                 |                                                                                                                                                                                     | <code>\^</code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 26, 36,<br>394, 644, 650, 898, 905, 1053, 1060                                                                                                                                                                                                                                        |
|                                                 |                                                                                                                                                                                     | <code>\_</code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 221–225                                                                                                                                                                                                                                                                               |
|                                                 |                                                                                                                                                                                     | <code>\`</code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 26, 394, 644, 898, 1053                                                                                                                                                                                                                                                               |
|                                                 |                                                                                                                                                                                     | <code>\ </code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 131, 133,<br>136, 192, 455, 457, 487, 706,<br>708, 710, 738, 960–962, 964,<br>993, 1114, 1116, 1117, 1119, 1149                                                                                                                                                                       |
|                                                 |                                                                                                                                                                                     | <code>\~</code> . . . . .                                                                                                                                                                                                                                                             |
|                                                 |                                                                                                                                                                                     | 26, 395, 644, 898, 1053                                                                                                                                                                                                                                                               |



| A                             |                                                                                                                                                                                                                |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \A                            | 243, 1021, 1177                                                                                                                                                                                                |
| \a                            | 26, 395, 644, 899, 1053                                                                                                                                                                                        |
| \AA                           | 27, 395, 644, 899, 1053                                                                                                                                                                                        |
| \aa                           | 27, 395, 644, 899, 1053                                                                                                                                                                                        |
| \Ac                           | 268, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \ac                           | 268, 530, 782, 1037, 1192                                                                                                                                                                                      |
| access (key)                  | 345                                                                                                                                                                                                            |
| \accsuppglossaryentryfield    | 370, 547, 568, 800, 821                                                                                                                                                                                        |
| \accsuppglossarysubentryfield | 370, 547, 568, 800, 821                                                                                                                                                                                        |
| \Acf                          | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \acf                          | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \Acfp                         | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \acfp                         | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \Acl                          | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \acl                          | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \Aclp                         | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \aclp                         | 267, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \Acp                          | 268, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \acp                          | 268, 530, 782, 1037, 1192                                                                                                                                                                                      |
| \acrfootnote                  | 269, 531, 532, 537, 784, 790, 1037, 1193                                                                                                                                                                       |
| \ACRfull                      | 252, 519, 771, 1026, 1181                                                                                                                                                                                      |
| \ACRfullpl                    | 252, 267, 519, 530, 770, 782, 1026, 1037, 1181, 1192                                                                                                                                                           |
| \acrfull                      | 251, 252, 267, 518, 530, 770, 782, 1025, 1026, 1037, 1181, 1192                                                                                                                                                |
| \ACRfullfmt                   | 251, 252, 255, 263, 265, 375, 377, 519, 521, 527, 528, 572, 574, 771, 772, 779, 780, 825, 827, 1025–1027, 1033, 1035, 1181–1183, 1189, 1191                                                                    |
| \Acrfullfmt                   | 251, 252, 255, 263, 264, 375, 377, 519, 520, 527, 528, 572, 574, 771, 772, 779, 780, 825, 827, 1025–1027, 1033, 1035, 1181, 1183, 1189, 1191                                                                   |
| \acrfullfmt                   | 251, 251, 255, 263, 264, 375, 377, 518, 520, 527, 528, 572, 573, 770, 772, 778, 780, 825, 827, 1025–1027, 1033, 1035, 1181, 1183, 1189, 1190                                                                   |
| \acrfullformat                | 178, 250, 250, 478, 518, 519, 530, 543, 730, 770, 782, 796, 984, 1025, 1140, 1181                                                                                                                              |
| \ACRfullpl                    | 253, 519, 771, 1026, 1182                                                                                                                                                                                      |
| \acrfullpl                    | 253, 267, 519, 530, 771, 782, 1026, 1037, 1182, 1192                                                                                                                                                           |
| \acrfullpl                    | 252, 253, 267, 519, 530, 771, 782, 1026, 1037, 1182, 1192                                                                                                                                                      |
| \ACRfullplfmt                 | 251, 253, 255, 263, 265, 376, 378, 520, 521, 527, 528, 572, 574, 771–773, 779, 780, 825, 827, 1025–1027, 1034, 1035, 1181–1183, 1189, 1191                                                                     |
| \Acrfullplfmt                 | 251, 253, 255, 263, 265, 376, 378, 519, 521, 527, 528, 572, 574, 771, 773, 779, 780, 825, 827, 1025–1027, 1034, 1035, 1181–1183, 1189, 1191                                                                    |
| \acrfullplfmt                 | 251, 252, 255, 263, 265, 375, 378, 519, 521, 527, 528, 572, 574, 771, 773, 779, 780, 825, 827, 1025–1027, 1033, 1035, 1181–1183, 1189, 1191                                                                    |
| \acrlinkfootnote              | 269, 269, 531, 784, 1037, 1193                                                                                                                                                                                 |
| \acrlinkfullformat            | 250, 251, 518–520, 770–772, 1025, 1181                                                                                                                                                                         |
| \ACRlong                      | 166, 473, 724, 978, 1134                                                                                                                                                                                       |
| \Acrlong                      | 166, 166, 267, 472, 530, 724, 782, 978, 1037, 1133, 1192                                                                                                                                                       |
| \acrlong                      | 165, 267, 472, 530, 723, 782, 977, 1037, 1133, 1192                                                                                                                                                            |
| \ACRlongpl                    | 168, 474, 725, 979, 1135                                                                                                                                                                                       |
| \Acrlongpl                    | 168, 168, 267, 473, 530, 725, 782, 979, 1037, 1135, 1192                                                                                                                                                       |
| \acrlongpl                    | 167, 267, 473, 530, 725, 782, 979, 1037, 1134, 1192                                                                                                                                                            |
| \acrnameformat                | 253, 520, 535, 578, 772, 788, 831, 1026, 1182                                                                                                                                                                  |
| \acrnolinkfootnote            | 269, 531, 784, 1037, 1193                                                                                                                                                                                      |
| acronym (option)              | 20                                                                                                                                                                                                             |
| \acronymentry                 | 254, 255, 257–261, 263–266, 371–374, 376–380, 520–530, 568–575, 772–782, 822–824, 826–829, 1027–1032, 1034–1036, 1183, 1185–1188, 1190–1192                                                                    |
| \acronymfont                  | 120, 161–165, 172, 178, 253, 255, 257–261, 263–266, 359, 360, 362–364, 371–380, 448, 449, 470–472, 475, 478, 520–530, 532, 533, 535–541, 560–563, 568–575, 577–579, 699, 700, 721–723, 727, 730, 772–782, 784, |

786, 787, 789–792, 794, 813–817, 822–830, 832, 953, 954, 975–977, 981, 984, 1026, 1028–1036, 1108, 1109, 1131–1133, 1137, 1140, 1182, 1183, 1185–1192

`\acronymlists` (option) . . . . . [22](#)

`\acronymname` . . . . .  
. . . [20](#), [47](#), [50](#), [390](#), [391](#), [405](#),  
[406](#), [640](#), [641](#), [655](#), [656](#), [895](#),  
[910](#), [912](#), [1049](#), [1050](#), [1065](#), [1067](#)

`\acronyms` (option) . . . . . [20](#)

`\acronymsort` [254](#), [255](#), [257–261](#), [263](#),  
[264](#), [266](#), [371–374](#), [376](#), [377](#),  
[379](#), [380](#), [520–530](#), [568–570](#),  
[573](#), [575](#), [772–782](#), [822–824](#),  
[826–829](#), [1027–1032](#), [1034–](#)  
[1036](#), [1183](#), [1185–1188](#), [1190](#), [1192](#)

`\acronymtype` . . . . . [19](#), [20](#), [254](#), [256](#),  
[390](#), [391](#), [520](#), [521](#), [530–544](#),  
[576–579](#), [640](#), [641](#), [772](#), [773](#),  
[782–797](#), [829–832](#), [894](#), [895](#),  
[1027](#), [1028](#), [1049](#), [1050](#), [1182](#), [1183](#)

`\acrpluralsuffix` . . . . . [249](#), [254](#),  
[257–259](#), [263–265](#), [371](#), [372](#),  
[376–379](#), [518](#), [520](#), [522–524](#),  
[527–534](#), [536–538](#), [540](#), [541](#),  
[543](#), [568](#), [569](#), [573](#), [575–580](#),  
[770](#), [772](#), [774–776](#), [779–782](#),  
[784–786](#), [788–791](#), [793](#), [794](#),  
[796](#), [797](#), [822](#), [826–833](#), [1025](#),  
[1027](#), [1029–1031](#), [1034–1036](#),  
[1180](#), [1183](#), [1185–1187](#), [1190](#), [1191](#)

`\ACRshort` . . . . . [162](#), [470](#), [722](#), [976](#), [1131](#)

`\Acrshort` [162](#), [162](#), [267](#), [470](#), [530](#),  
[722](#), [782](#), [975](#), [1036](#), [1131](#), [1192](#)

`\acrshort` . . . . . [161](#), [266](#), [470](#), [530](#),  
[721](#), [782](#), [975](#), [1036](#), [1131](#), [1192](#)

`\ACRshortpl` . . . . . [164](#), [471](#), [723](#), [977](#), [1133](#)

`\Acrshortpl` [164](#), [164](#), [267](#), [471](#), [530](#),  
[723](#), [782](#), [977](#), [1036](#), [1132](#), [1192](#)

`\acrshortpl` . . . . . [163](#), [267](#), [471](#), [530](#),  
[722](#), [782](#), [976](#), [1036](#), [1132](#), [1192](#)

acrstyles:

`dua` . . . . . [262](#), [374](#)

`dua-desc` . . . . . [263](#), [376](#)

`footnote` . . . . . [264](#), [377](#)

`footnote-desc` . . . . . [266](#), [379](#)

`footnote-sc` . . . . . [265](#), [378](#)

`footnote-sc-desc` . . . . . [266](#), [379](#)

`footnote-sm` . . . . . [265](#), [379](#)

`footnote-sm-desc` . . . . . [266](#), [379](#)

`long-sc-short` . . . . . [259](#)

`long-sc-short-desc` . . . . . [260](#), [372](#)

`long-short` . . . . . [257](#), [371](#)

`long-short-desc` . . . . . [260](#), [372](#)

`long-sm-short` . . . . . [259](#)

`long-sm-short-desc` . . . . . [260](#), [373](#)

`long-sp-short` . . . . . [257](#)

`long-sp-short-desc` . . . . . [260](#)

`sc-short-long` . . . . . [259](#)

`sc-short-long-desc` . . . . . [261](#), [373](#)

`short-long` . . . . . [258](#), [371](#)

`short-long-desc` . . . . . [261](#), [373](#)

`sm-short-long` . . . . . [259](#)

`sm-short-long-desc` . . . . . [261](#), [374](#)

`\Acs` . . . . . [267](#), [530](#), [782](#), [1036](#), [1192](#)

`\acs` . . . . . [266](#), [530](#), [782](#), [1036](#), [1192](#)

`\Acsp` . . . . . [267](#), [530](#), [782](#), [1036](#), [1192](#)

`\acsp` . . . . . [267](#), [530](#), [782](#), [1036](#), [1192](#)

`\add@accent@` . . . . . [26](#), [394](#), [644](#), [898](#), [1053](#)

`\addcontentsline` . . . . .  
. . . . . [57](#), [410](#), [660](#), [916](#), [1070](#)

`\addglossarytocaptions` . . . . . [48](#),  
[49](#), [405](#), [655](#), [656](#), [911](#), [1065](#), [1066](#)

`\addtolength` . . . . . [333](#), [594](#), [632](#), [847](#), [885](#)

`\advance` [17](#), [18](#), [100](#), [107](#), [128](#), [299](#),  
[389](#), [390](#), [435](#), [453](#), [612](#), [639](#),  
[686](#), [704](#), [866](#), [893](#), [894](#), [942](#),  
[946](#), [958](#), [1048](#), [1097](#), [1101](#), [1112](#)

`\AE` . . . . . [26](#), [395](#), [644](#), [899](#), [1053](#)

`\ae` . . . . . [26](#), [395](#), [644](#), [899](#), [1053](#)

`altlist` (style) . . . . . [287](#)

`altlistgroup` (style) . . . . . [287](#)

`altlisthypergroup` (style) . . . . . [287](#)

`altlong4col` (style) . . . . . [294](#)

`altlong4col-booktabs` (style) . . . . . [297](#)

`altlong4colborder` (style) . . . . . [294](#)

`altlong4colheader` (style) . . . . . [294](#)

`altlong4colheaderborder` (style) . . . . . [295](#)

`altlongragged4col` (style) . . . . . [303](#)

`altlongragged4col-booktabs`  
(style) . . . . . [298](#)

`altlongragged4colborder` (style) . . . . . [305](#)

`altlongragged4colheader` (style) . . . . . [304](#)

`altlongragged4colheaderborder`  
(style) . . . . . [305](#)

`\altnewglossary` [76](#), [421](#), [671](#), [927](#), [1082](#)

`altsuper4col` (style) . . . . . [317](#)

`altsuper4colborder` (style) . . . . . [318](#)

`altsuper4colheader` (style) . . . . . [317](#)

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| altsuper4colheaderborder (style)       | <a href="#">318</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 905, 1003, 1005, 1023, 1042,       |
| altsuperragged4col (style)             | <a href="#">323</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1043, 1060, 1159, 1161, 1166, 1179 |
| altsuperragged4colborder (style)       | <a href="#">324</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| altsuperragged4colheader (style)       | <a href="#">324</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| altsuperragged4colheaderborder (style) | <a href="#">324</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| alttree (style)                        | <a href="#">331</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| alttreegroup (style)                   | <a href="#">334</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| alttreehypergroup (style)              | <a href="#">334</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |
| \andname                               | <a href="#">48</a> , <a href="#">215</a> , <a href="#">405</a> , <a href="#">500</a> ,<br><a href="#">655</a> , <a href="#">752</a> , <a href="#">911</a> , <a href="#">1008</a> , <a href="#">1065</a> , <a href="#">1164</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| \AnyTrackedLanguages                   | <a href="#">49</a> , <a href="#">335</a> , <a href="#">336</a> , <a href="#">406</a> ,<br><a href="#">581</a> , <a href="#">598</a> , <a href="#">656</a> , <a href="#">834</a> , <a href="#">851</a> , <a href="#">912</a> , <a href="#">1066</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| \appto                                 | <a href="#">22</a> , <a href="#">27</a> ,<br><a href="#">82</a> , <a href="#">91</a> , <a href="#">92</a> , <a href="#">208</a> , <a href="#">337</a> , <a href="#">347</a> , <a href="#">392</a> ,<br><a href="#">395</a> , <a href="#">424</a> , <a href="#">429</a> , <a href="#">549</a> , <a href="#">598</a> , <a href="#">599</a> ,<br><a href="#">642</a> , <a href="#">645</a> , <a href="#">674</a> , <a href="#">680</a> , <a href="#">802</a> , <a href="#">851</a> ,<br><a href="#">852</a> , <a href="#">896</a> , <a href="#">899</a> , <a href="#">930</a> , <a href="#">936</a> , <a href="#">1005</a> ,<br><a href="#">1051</a> , <a href="#">1054</a> , <a href="#">1085</a> , <a href="#">1090</a> , <a href="#">1091</a> , <a href="#">1160</a>                                                                                                                                             |                                    |
| \AtBeginDocument                       | <a href="#">20</a> , <a href="#">66</a> , <a href="#">88</a> , <a href="#">107</a> , <a href="#">181</a> , <a href="#">201</a> ,<br><a href="#">391</a> , <a href="#">415</a> , <a href="#">427</a> , <a href="#">439</a> , <a href="#">479</a> , <a href="#">493</a> ,<br><a href="#">640</a> , <a href="#">666</a> , <a href="#">678</a> , <a href="#">690</a> , <a href="#">731</a> , <a href="#">745</a> ,<br><a href="#">895</a> , <a href="#">921</a> , <a href="#">934</a> , <a href="#">946</a> , <a href="#">986</a> , <a href="#">1000</a> ,<br><a href="#">1049</a> , <a href="#">1076</a> , <a href="#">1088</a> , <a href="#">1101</a> , <a href="#">1141</a> , <a href="#">1155</a>                                                                                                                                                                                                                |                                    |
| \AtEndDocument                         | <a href="#">35</a> , <a href="#">37</a> , <a href="#">88</a> , <a href="#">113</a> ,<br><a href="#">200</a> , <a href="#">204</a> , <a href="#">220</a> , <a href="#">281</a> , <a href="#">400</a> , <a href="#">401</a> ,<br><a href="#">427</a> , <a href="#">442</a> , <a href="#">492</a> , <a href="#">495</a> , <a href="#">503</a> , <a href="#">603</a> ,<br><a href="#">650</a> , <a href="#">651</a> , <a href="#">678</a> , <a href="#">693</a> , <a href="#">744</a> , <a href="#">747</a> ,<br><a href="#">755</a> , <a href="#">856</a> , <a href="#">905</a> , <a href="#">906</a> , <a href="#">934</a> , <a href="#">950</a> ,<br><a href="#">999</a> , <a href="#">1002</a> , <a href="#">1010</a> , <a href="#">1040</a> , <a href="#">1059</a> ,<br><a href="#">1061</a> , <a href="#">1088</a> , <a href="#">1105</a> , <a href="#">1155</a> , <a href="#">1158</a> , <a href="#">1166</a> |                                    |
| automake (option)                      | <a href="#">37</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| automakegloss (option)                 | <a href="#">38</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| automakeglosslite (option)             | <a href="#">38</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| <b>B</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
| \b                                     | <a href="#">26</a> , <a href="#">395</a> , <a href="#">644</a> , <a href="#">899</a> , <a href="#">1053</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \begin                                 | <a href="#">187</a> , <a href="#">231</a> ,<br><a href="#">286</a> , <a href="#">289–295</a> , <a href="#">297</a> , <a href="#">298</a> , <a href="#">300–</a><br><a href="#">325</a> , <a href="#">483</a> , <a href="#">507</a> , <a href="#">585</a> , <a href="#">606–610</a> ,<br><a href="#">612–627</a> , <a href="#">734</a> , <a href="#">759</a> , <a href="#">838</a> , <a href="#">859</a> ,<br><a href="#">861–881</a> , <a href="#">989</a> , <a href="#">1015</a> , <a href="#">1145</a> , <a href="#">1171</a>                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
| \BeginAccSupp                          | <a href="#">344</a> , <a href="#">547</a> , <a href="#">800</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
| \begingroup                            | <a href="#">6</a> ,<br><a href="#">8</a> , <a href="#">36</a> , <a href="#">206</a> , <a href="#">211</a> , <a href="#">219</a> , <a href="#">246</a> , <a href="#">383</a> ,<br><a href="#">385</a> , <a href="#">496</a> , <a href="#">498</a> , <a href="#">517</a> , <a href="#">633</a> , <a href="#">634</a> ,<br><a href="#">650</a> , <a href="#">748</a> , <a href="#">750</a> , <a href="#">769</a> , <a href="#">887</a> , <a href="#">889</a> ,                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \bfseries                              | <a href="#">290</a> , <a href="#">292–294</a> , <a href="#">296</a> , <a href="#">297</a> , <a href="#">301–</a><br><a href="#">303</a> , <a href="#">305</a> , <a href="#">313</a> , <a href="#">315–318</a> , <a href="#">320–</a><br><a href="#">325</a> , <a href="#">608–611</a> , <a href="#">614–616</a> , <a href="#">621–</a><br><a href="#">627</a> , <a href="#">861–865</a> , <a href="#">867–870</a> , <a href="#">874–881</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \bgroup                                | <a href="#">26</a> , <a href="#">97</a> , <a href="#">136</a> , <a href="#">179</a> ,<br><a href="#">213</a> , <a href="#">226</a> , <a href="#">247</a> , <a href="#">394</a> , <a href="#">433</a> , <a href="#">478</a> ,<br><a href="#">502</a> , <a href="#">504</a> , <a href="#">644</a> , <a href="#">684</a> , <a href="#">710</a> , <a href="#">730</a> ,<br><a href="#">754</a> , <a href="#">756</a> , <a href="#">898</a> , <a href="#">940</a> , <a href="#">964</a> , <a href="#">985</a> ,<br><a href="#">1006</a> , <a href="#">1009</a> , <a href="#">1011</a> , <a href="#">1024</a> , <a href="#">1053</a> ,<br><a href="#">1095</a> , <a href="#">1119</a> , <a href="#">1140</a> , <a href="#">1162</a> , <a href="#">1167</a> , <a href="#">1179</a>                                                                                                                                      |                                    |
| \bool                                  | <a href="#">138</a> , <a href="#">1121</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    |
| \boolean                               | <a href="#">543</a> , <a href="#">796</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |
| \boolfalse                             | <a href="#">38</a> , <a href="#">39</a> , <a href="#">401</a> , <a href="#">651</a> , <a href="#">907</a> , <a href="#">1061</a> , <a href="#">1062</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    |
| \booltrue                              | <a href="#">401</a> , <a href="#">651</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |
| \bottomrule                            | <a href="#">296</a> , <a href="#">297</a> , <a href="#">611</a> , <a href="#">864</a> , <a href="#">865</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \box                                   | <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |
| <b>C</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
| \c                                     | <a href="#">26</a> , <a href="#">395</a> , <a href="#">644</a> , <a href="#">899</a> , <a href="#">1053</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \c@equation                            | <a href="#">128</a> , <a href="#">453</a> , <a href="#">704</a> , <a href="#">958</a> , <a href="#">1112</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    |
| \c@glossaryentry                       | <a href="#">14</a> , <a href="#">388</a> , <a href="#">637</a> , <a href="#">891</a> , <a href="#">1046</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \c@glossarysubentry                    | <a href="#">15</a> , <a href="#">388</a> , <a href="#">638</a> , <a href="#">892</a> , <a href="#">1047</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |
| \c@page                                | <a href="#">207</a> , <a href="#">208</a> , <a href="#">211</a> , <a href="#">497</a> , <a href="#">498</a> ,<br><a href="#">749</a> , <a href="#">750</a> , <a href="#">1004–1006</a> , <a href="#">1160</a> , <a href="#">1161</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    |
| \capitalisewords                       | <a href="#">175</a> , <a href="#">728</a> , <a href="#">982</a> , <a href="#">1138</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |
| \catcode                               | <a href="#">36</a> ,<br><a href="#">88</a> , <a href="#">136</a> , <a href="#">427</a> , <a href="#">650</a> , <a href="#">678</a> , <a href="#">710</a> ,<br><a href="#">905</a> , <a href="#">934</a> , <a href="#">964</a> , <a href="#">1060</a> , <a href="#">1088</a> , <a href="#">1119</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| \cGls                                  | <a href="#">115</a> , <a href="#">115</a> , <a href="#">443</a> , <a href="#">694</a> , <a href="#">951</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| \cgl                                   | <a href="#">114</a> ,<br><a href="#">114</a> , <a href="#">115</a> , <a href="#">443</a> , <a href="#">694</a> , <a href="#">951</a> , <a href="#">1105</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| \cGlsformat                            | <a href="#">113</a> , <a href="#">115</a> , <a href="#">442</a> ,<br><a href="#">443</a> , <a href="#">693</a> , <a href="#">694</a> , <a href="#">950</a> , <a href="#">951</a> , <a href="#">1105</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| \cglformat                             | <a href="#">112</a> , <a href="#">114</a> , <a href="#">442</a> ,<br><a href="#">443</a> , <a href="#">693</a> , <a href="#">694</a> , <a href="#">950</a> , <a href="#">951</a> , <a href="#">1104</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| \cGlspl                                | <a href="#">116</a> , <a href="#">116</a> , <a href="#">443</a> , <a href="#">444</a> , <a href="#">694</a> , <a href="#">951</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |
| \cglspl                                | <a href="#">115</a> , <a href="#">115</a> , <a href="#">116</a> , <a href="#">443</a> , <a href="#">694</a> , <a href="#">951</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |
| \cGlsplformat                          | <a href="#">113</a> , <a href="#">116</a> , <a href="#">442</a> ,<br><a href="#">444</a> , <a href="#">693</a> , <a href="#">695</a> , <a href="#">950</a> , <a href="#">952</a> , <a href="#">1105</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| \cglspformat                           | <a href="#">113</a> , <a href="#">116</a> , <a href="#">442</a> ,<br><a href="#">443</a> , <a href="#">693</a> , <a href="#">694</a> , <a href="#">950</a> , <a href="#">951</a> , <a href="#">1105</a> , <a href="#">1106</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| \changes                               | <a href="#">179</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |

|                                                    |                                                                |                               |                                   |
|----------------------------------------------------|----------------------------------------------------------------|-------------------------------|-----------------------------------|
| <code>\char</code> . . . . .                       | 243, 515, 767, 1022, 1177                                      | <code>\csname</code> .        | 15–18, 26, 42, 47, 49, 50,        |
| <code>\cleardoublepage</code> . . . . .            |                                                                |                               | 56, 59, 62, 65, 67, 70, 76, 77,   |
| .                                                  | 56, 57, 409, 659, 660, 915, 1070                               |                               | 84, 85, 91–93, 95, 96, 100–107,   |
| <code>\clearpage</code> . . . . .                  |                                                                |                               | 109, 110, 127–129, 141–145,       |
| .                                                  | 56, 57, 409, 659, 660, 915, 1070                               |                               | 162–169, 179, 181, 185, 186,      |
| <code>\closeout</code> 36, 88, 188, 190, 194, 205, |                                                                |                               | 191–194, 200, 204–206, 208,       |
| 400, 427, 484, 485, 488, 496,                      |                                                                |                               | 212–214, 218, 220, 226, 244,      |
| 650, 678, 735, 737, 740, 748,                      |                                                                |                               | 248, 272–277, 331, 333, 337,      |
| 905, 934, 990, 991, 995, 1003,                     |                                                                |                               | 348, 349, 352, 356, 362–364,      |
| 1060, 1088, 1146, 1147, 1151, 1158                 |                                                                |                               | 381, 382, 388–390, 394, 403,      |
| <code>\compatglossarystyle</code> . . . . .        |                                                                |                               | 405, 406, 409, 411, 413, 415–     |
| . . . . .                                          | 587–597, 841–851                                               |                               | 417, 420, 421, 425, 429–432,      |
| <code>compatible-2.07</code> (option) . . . . .    | <a href="#">38</a>                                             |                               | 435–440, 450, 452–454, 461–       |
| <code>compatible-3.07</code> (option) . . . . .    | <a href="#">38</a>                                             |                               | 464, 470–474, 479, 481–483,       |
| <code>\compatibleglossentry</code> . . . . .       | <a href="#">239</a> ,                                          |                               | 486–488, 493, 495–497, 499,       |
| <a href="#">344</a> , 513, 514, 547, 765, 766, 800 |                                                                |                               | 500, 502–504, 510, 513, 514,      |
| <code>\compatiblesubglossentry</code> . . . . .    |                                                                |                               | 516, 518, 544–547, 549–552,       |
| . . . . .                                          | <a href="#">241</a> , <a href="#">344</a> , 514, 547, 766, 800 |                               | 555, 562, 563, 580–583, 594,      |
| <code>\copy</code> . . . . .                       | 299, 612, 613, 866                                             |                               | 599, 603, 604, 631, 632, 638–     |
| <code>\count@</code> . . . . .                     | 231,                                                           |                               | 640, 644, 653, 655, 656, 659,     |
| 232, 508, 760, 1015, 1016, 1171                    |                                                                |                               | 661, 663, 665, 666, 668, 670,     |
| <code>counter</code> (key) . . . . .               | <a href="#">80</a>                                             |                               | 671, 675, 676, 679–683, 686–      |
| <code>counter</code> (option) . . . . .            | <a href="#">22</a>                                             |                               | 691, 701, 703–705, 713–715,       |
| counters:                                          |                                                                |                               | 721–726, 730, 731, 733, 734,      |
| <code>glossaryentry</code> . . . . .               | <a href="#">14</a>                                             |                               | 738–740, 744, 747–749, 751–       |
| <code>glossarysubentry</code> . . . . .            | <a href="#">15</a>                                             |                               | 756, 762, 765–768, 770, 783,      |
| <code>counterwithin</code> (option) . . . . .      | <a href="#">14</a>                                             |                               | 797–800, 803–805, 808, 815–       |
| <code>\cs</code> . . . . .                         | 43–45, 221–225, 279, 280                                       |                               | 817, 833–836, 847, 852, 856,      |
| <code>\csdef</code> . . . . .                      | 24, 91–93, 103, 104,                                           |                               | 857, 884, 885, 892–894, 898,      |
| 111, 112, 225, 226, 245, 256,                      |                                                                |                               | 909–912, 915, 917, 919, 921–      |
| 393, 429–431, 437, 438, 441,                       |                                                                |                               | 923, 926, 927, 931, 932, 935–     |
| 442, 504, 516, 521, 522, 587,                      |                                                                |                               | 939, 942–946, 948, 957, 958,      |
| 643, 680, 681, 688, 689, 692,                      |                                                                |                               | 967–969, 975–980, 985, 986,       |
| 755, 756, 768, 773, 841, 897,                      |                                                                |                               | 988, 989, 993–995, 1000, 1002–    |
| 936, 937, 944, 945, 949, 1011,                     |                                                                |                               | 1004, 1006, 1007, 1009, 1010,     |
| 1012, 1023, 1028, 1052, 1090–                      |                                                                |                               | 1012, 1022, 1024, 1038–1040,      |
| 1092, 1099, 1104, 1167, 1178, 1184                 |                                                                |                               | 1047–1049, 1053, 1064–1067,       |
| <code>\csedef</code> . . . . .                     | 114, 208, 442, 497,                                            |                               | 1069, 1070, 1072–1074, 1076–      |
| 693, 749, 950, 1004, 1105, 1160                    |                                                                |                               | 1078, 1081, 1082, 1086, 1090–     |
| <code>\csgdef</code> . . . . .                     | 19, 54,                                                        |                               | 1094, 1096–1101, 1103, 1112,      |
| 74, 78, 112, 113, 216, 234, 408,                   |                                                                |                               | 1113, 1122–1124, 1131–1135,       |
| 420, 421, 441, 442, 501, 510,                      |                                                                |                               | 1141, 1143–1145, 1148–1151,       |
| 658, 670, 671, 692, 693, 753,                      |                                                                |                               | 1155, 1158–1160, 1162, 1163,      |
| 762, 894, 914, 926, 927, 949,                      |                                                                |                               | 1165–1167, 1178, 1180, 1193–1195  |
| 950, 1008, 1017, 1049, 1068,                       |                                                                | <code>\csshow</code> . . . .  | 276, 546, 799, 1039, 1195         |
| 1080, 1082, 1104, 1105, 1164, 1173                 |                                                                | <code>\csuse</code> . . . . . | 50, 53, 54,                       |
| <code>\cslet</code> . . . . .                      | 81, 82, 97, 104,                                               |                               | 74, 82, 84, 85, 92, 93, 169, 195, |
| 230, 424, 433, 438, 507, 674,                      |                                                                |                               | 196, 226, 230, 232, 234–236,      |
| 684, 689, 759, 929, 930, 940,                      |                                                                |                               | 256, 337, 406, 408, 420, 425,     |
| 945, 1014, 1084, 1095, 1099, 1170                  |                                                                |                               | 426, 430, 431, 450, 451, 489,     |

490, 504, 506–508, 510, 511,  
516, 522, 588–597, 599, 656,  
658, 670, 675, 676, 681, 701,  
741, 742, 756, 758–760, 762,  
763, 768, 774, 842–846, 848–  
852, 912, 913, 926, 929, 931,  
932, 937, 980, 996, 997, 1012,  
1013, 1015–1018, 1028, 1067,  
1068, 1081, 1084, 1086, 1087,  
1091, 1092, 1135, 1151–1153,  
1167, 1169–1171, 1173, 1174, 1184

`\csxdef` . . . . . 102, 113, 436, 442,  
687, 693, 783, 943, 950, 1098, 1105

`\currentglossary` 14, 15, 54, 219,  
278, 280, 281, 388, 408, 502,  
637, 638, 658, 754, 892, 913,  
1010, 1040, 1046, 1047, 1068, 1165

`\currentglssubentry` . . . . .  
. . . . . 15, 238, 388, 512,  
638, 764, 892, 1019, 1047, 1175

`\CurrentOption` . . . . .  
. . . . . 42, 336, 343, 403, 546,  
598, 653, 799, 851, 909, 1063, 1064

`\CurrentTrackedLanguage` . . . . .  
. . . . . 50, 335, 336, 406,  
581, 598, 656, 835, 851, 912, 1066

`\CurrentTrackedTag` . . . . .  
. . . . . 49, 335, 336, 406,  
581, 598, 656, 834, 851, 912, 1066

`\CustomAcronymFields` . . . . .  
. . . . . 271, 543, 796, 797

`\CustomNewAcronymDef` . . . . .  
. . . . . 271, 543, 544, 796, 797

**D**

`\d` . . . . . 26, 394, 644, 898, 1053

`\datatool` . . . . . 221, 223, 224

`\datatoolasciistart` . . . . . 222

`\datatoolctrlboundary` . . . . 222–224

`\day` 184, 188, 481, 484, 583, 586, 733,  
736, 837, 839, 987, 990, 1143, 1146

`debug` (option) . . . . . 7

`\DeclareAcronymList` . . . . .  
20, 21, 22, 254, 256, 390–392,  
520, 521, 531, 533, 534, 536,  
538, 540, 542, 544, 640–642,  
772, 773, 783, 785, 787, 789,  
791, 793, 795, 797, 895, 896,  
1027, 1028, 1049–1051, 1182, 1183

`\DeclareCurrentRelease` . . . . .  
. . . . . 4, 278, 282, 284, 288,  
295, 300, 306, 311, 319, 325,  
335, 336, 343, 382, 383, 633, 886

`\DeclareListParser` . . . . .  
. . . . . 199, 492, 743, 998, 1154

`\DeclareOption` . 11, 336, 343, 386,  
546, 598, 636, 799, 851, 890, 1045

`\DeclareOptionX` 11, 386, 636, 890, 1045

`\DeclareRelease` . . . . .  
. . . . . 4, 278, 282, 284, 288,  
295, 300, 306, 311, 319, 325,  
335, 336, 343, 382, 383, 633, 886

`\DeclareRobustCommand` . . . . .  
50, 406, 539, 657, 791, 912, 1067

`\def` . . 11, 12, 14–21, 25–27, 33–35,  
37, 38, 40, 45–47, 50, 51, 54,  
58, 61–66, 70, 75–83, 86, 95,  
97, 99–104, 107, 108, 112–117,  
123, 127–137, 140–169, 179–  
181, 184, 188, 190–197, 200–  
202, 204, 208, 209, 211–214,  
218, 225, 229, 231, 233–236,  
243–248, 251–254, 281–284,  
310, 311, 331–334, 336, 337,  
339–343, 345–348, 362–369,  
386–391, 394, 395, 399, 401–  
408, 410, 412–418, 420–424,  
426, 432–439, 442–444, 450–  
474, 479, 481, 484–491, 493–  
495, 497–500, 502, 503, 507–  
511, 515–520, 531–536, 538–  
540, 542, 544, 547–549, 562–  
567, 576–580, 583, 586, 588,  
593, 594, 598, 600–605, 619,  
620, 631, 632, 636–641, 643–  
645, 649–652, 654–658, 660,  
662–668, 670–674, 676, 682,  
684–690, 692–695, 701–726,  
730, 731, 733, 735, 737–742,  
745–747, 749–755, 759–763,  
767–772, 783, 785–793, 795,  
797, 800–803, 815–820, 830–  
833, 836, 837, 839, 841, 847,  
851–855, 857, 858, 872, 873,  
884–886, 890–896, 898, 899,  
903, 905–910, 912–914, 916,  
918–923, 926–930, 932, 939–  
947, 949–952, 955, 957–980,  
985–987, 990, 992–1002, 1004–

1009, 1011, 1014, 1015, 1017–  
1019, 1021–1027, 1040, 1045–  
1050, 1052–1054, 1058, 1059,  
1061, 1062, 1064, 1065, 1067,  
1068, 1071, 1073–1076, 1078,  
1081–1085, 1087, 1093, 1095–  
1099, 1101, 1102, 1104–1107,  
1110, 1112–1120, 1122–1135,  
1140, 1141, 1143, 1146–1153,  
1155, 1156, 1158, 1160–1163,  
1165, 1166, 1170–1174, 1177–1182  
\def@glsexdycheckbackslash . . . .  
137, 459, 460, 711, 712, 965, 1120  
\DefaultNewAcronymDef . . . . 268,  
380, 530, 531, 576, 782, 784, 829  
\defgldisplay . . . . . 122, 450, 701  
\defgldisplayfirst . . . 122, 450, 701  
\defglentryfmt . . . . .  
74, 76, 78, 256, 268, 420, 421,  
450, 521, 530, 531, 533, 535,  
537, 539, 541, 543, 670–672,  
701, 773, 782, 784, 786, 787,  
789, 792, 794, 796, 926, 927,  
1028, 1037, 1080–1082, 1184, 1193  
\define@boolkey . . . . . 10, 12–  
15, 20, 27, 28, 31–33, 38, 123,  
124, 236, 386–388, 390, 395,  
396, 398, 399, 401, 451, 511,  
635–638, 640, 645, 648, 649,  
651, 702, 763, 890–892, 895,  
899, 900, 902, 903, 906, 907,  
955, 1018, 1044–1047, 1049,  
1054, 1057, 1058, 1061, 1110, 1174  
\define@choicekey . . 7, 9, 10, 15,  
28, 30, 33, 37, 40, 41, 81, 235,  
236, 384–386, 388, 396, 397,  
399, 400, 402, 423, 510, 511,  
633, 635, 636, 638, 646–648,  
651, 652, 673, 762, 763, 887,  
889, 890, 892, 900, 901, 903,  
905, 907, 908, 929, 1018, 1042,  
1044, 1047, 1055, 1056, 1058,  
1060, 1062, 1063, 1084, 1173, 1174  
\define@key . . . . . 11, 14, 22, 23,  
29, 31, 33, 34, 78–83, 91, 92,  
123, 180, 234–236, 336, 345–  
347, 386, 388, 392, 396, 399,  
422–424, 429, 451, 479, 510,  
511, 547, 548, 598, 636, 638,  
642, 646, 649, 672–674, 680,  
702, 731, 762, 763, 801, 802,  
851, 890, 892, 896, 900, 902,  
903, 928–930, 936, 955, 986,  
1017–1019, 1045, 1046, 1051,  
1055, 1057, 1058, 1082–1085,  
1090, 1091, 1110, 1141, 1173, 1174  
\DefineAcronymSynonyms . . . . .  
. 45, 266, 268, 404, 530, 654,  
782, 909, 1036, 1037, 1064, 1192  
\delimN . . . . . 53, 187, 199,  
233, 246, 408, 483, 492, 509,  
517, 585, 658, 735, 743, 761,  
769, 839, 913, 989, 999, 1017,  
1023, 1068, 1145, 1154, 1172, 1179  
\delimR . . . 53, 187, 246, 408, 483,  
517, 585, 658, 735, 769, 839,  
913, 989, 1023, 1068, 1145, 1179  
description (key) . . . . . 78  
description (option) . . . . . 32  
descriptionaccess (key) . . . . . 346  
\DescriptionDUANewAcronymDef . .  
. . . . . 269, 533, 535, 786, 787  
\DescriptionFootnoteNewAcronymDef  
. . . . . 269,  
380, 532, 533, 577, 784, 785, 830  
\descriptionname . . . . .  
. . 47, 50, 290, 292–294, 296,  
297, 301–303, 305, 313, 315–  
318, 320–325, 405, 406, 608–  
611, 614–616, 621–623, 625–  
627, 655, 656, 861–865, 867–  
870, 874–881, 910, 912, 1065, 1067  
\DescriptionNewAcronymDef . 269,  
380, 535, 536, 577, 788, 789, 831  
descriptionplural (key) . . . . . 79  
descriptionpluralaccess (key) . . 346  
\DH . . . . . 27, 395, 645, 899, 1054  
\dh . . . . . 27, 395, 645, 899, 1054  
\dimen@ . . 258, 299, 331, 523, 612,  
630, 631, 775, 866, 884, 1030, 1185  
\directlua . . . . . 43, 909, 1064  
\disable@keys . 45, 403, 653, 909, 1064  
disablemakegloss (option) . . . . . 34  
\do . . . . . 31, 42, 46, 48, 58, 60,  
67, 89, 90, 130, 179, 184–186,  
197–199, 207, 215, 225, 226,  
256, 398, 403, 404, 410, 411,  
416, 427, 428, 454, 479, 481,  
482, 491, 492, 497, 500, 504,  
521, 531, 533, 535, 536, 538,

|                                                       |                    |
|-------------------------------------------------------|--------------------|
| 541, 542, 544, 583, 603, 604,                         |                    |
| 648, 653, 655, 661, 666, 678,                         |                    |
| 679, 705, 730, 733, 734, 743,                         |                    |
| 744, 749, 752, 755, 756, 773,                         |                    |
| 783, 786, 787, 789, 791, 794,                         |                    |
| 795, 797, 837, 856, 857, 902,                         |                    |
| 909–911, 916, 917, 922, 934,                          |                    |
| 935, 959, 985, 987–989, 997–                          |                    |
| 999, 1004, 1008, 1011, 1028,                          |                    |
| 1040, 1057, 1063, 1065, 1066,                         |                    |
| 1071, 1072, 1076, 1077, 1089,                         |                    |
| 1090, 1114, 1141, 1143, 1144,                         |                    |
| 1153, 1154, 1159, 1163, 1167, 1184                    |                    |
| <code>\do@glo@storeentry</code> .. 16–19, 103,        |                    |
| 388–390, 437, 638–640, 688,                           |                    |
| 892–894, 944, 1047–1049, 1099                         |                    |
| <code>\do@gls@link@checkfirsthyper</code> ..          |                    |
| .... 125, 127, 140–146, 161–                          |                    |
| 169, 362–364, 452, 461–464,                           |                    |
| 470–474, 562, 563, 702, 703,                          |                    |
| 713–716, 721–725, 815, 816,                           |                    |
| 956, 957, 966–969, 975–980,                           |                    |
| 1111, 1112, 1122–1125, 1131–1135                      |                    |
| <code>\do@gls@xdycheckbackslash</code> .....          |                    |
| ..... 130, 454, 705, 959, 1114                        |                    |
| <code>\do@gls@disablehyperinlist</code> .....         |                    |
| ..... 126, 127, 452, 703, 957, 1111, 1112             |                    |
| <code>\do@gls@shaschildren</code> .....               |                    |
| ..... 70, 417, 418, 667, 668, 923, 1078               |                    |
| <code>\do@write@gls@labelsname</code> .....           |                    |
| ..... 35, 36, 36, 650, 905, 1059, 1060                |                    |
| <code>\doifglossarynoexistsordo</code> .....          |                    |
| ..... 70, 75, 417,                                    |                    |
| 420, 667, 670, 923, 926, 1078, 1081                   |                    |
| <code>\dtl@ifsingle</code> .....                      | 515, 767           |
| <code>\dtl@insertinto</code> .....                    |                    |
| ..... 227, 505, 757, 1012, 1168                       |                    |
| <code>\dtl@sortresult</code> .....                    | 227,               |
| 228, 505, 757, 1012, 1013, 1168                       |                    |
| <code>\DTLassignlettergroup</code> .....              | 224                |
| <code>\dtlcompare</code> .. 228, 505, 757, 1013, 1168 |                    |
| <code>\dtlicompare</code> 228, 505, 757, 1013, 1168   |                    |
| <code>\DTLifinlist</code> .....                       | 78, 126, 422,      |
| 452, 672, 703, 928, 957, 1082, 1111                   |                    |
| <code>\DTLifint</code> .. 243, 515, 767, 1022, 1177   |                    |
| <code>\dtlletterindexcompare</code> .....             |                    |
| ..... 227, 505, 757, 1012, 1168                       |                    |
| <code>\dtlnonlettergroup</code> .....                 | 224                |
| <code>\dtlnumbergroup</code> .....                    | 224                |
| <code>\DTLsortedletter</code> .....                   | 224                |
| <code>\DTLsortletterhandler</code> .....              | 223                |
| <code>\DTLsortwordcasehandler</code> ..               | 223, 224           |
| <code>\DTLsortwordhandler</code> .....                | 222                |
| <code>\DTLsubstituteall</code> .....                  |                    |
| ..... 130, 455, 705, 959, 1114                        |                    |
| <code>\dtlwordindexcompare</code> .....               |                    |
| ..... 227, 505, 757, 1012, 1168                       |                    |
| <code>dua</code> (acrstyle) .....                     | 262, 374           |
| <code>dua</code> (option) .....                       | 32                 |
| <code>dua-desc</code> (acrstyle) .....                | 263, 376           |
| <code>\DUANewAcronymDef</code> .....                  |                    |
| ..... 271, 541, 542, 794, 795                         |                    |
| <b>E</b>                                              |                    |
| <code>\eappto</code> .....                            | 421, 422, 438, 497 |
| <code>\edef</code> .....                              | 46, 49, 58–        |
| 63, 65, 76, 84, 85, 88, 90, 128–                      |                    |
| 137, 182, 183, 188, 190–192,                          |                    |
| 199, 204, 220, 227, 228, 232,                         |                    |
| 243, 246–248, 390, 391, 404,                          |                    |
| 406, 410–417, 420–422, 425–                           |                    |
| 428, 431–434, 438, 450, 452–                          |                    |
| 460, 478–480, 484–487, 489,                           |                    |
| 490, 492, 495, 498, 499, 501,                         |                    |
| 503–505, 508, 512, 515, 517,                          |                    |
| 518, 530, 532, 533, 535, 537,                         |                    |
| 539, 541, 576–579, 582–584,                           |                    |
| 586, 603, 655, 656, 660–665,                          |                    |
| 670, 671, 675, 676, 678, 679,                         |                    |
| 701, 704–712, 731, 732, 735,                          |                    |
| 737–739, 741–743, 747, 750,                           |                    |
| 751, 755, 757, 760, 767, 769,                         |                    |
| 770, 782, 784, 786, 788, 790,                         |                    |
| 792, 794, 829–832, 835–837,                           |                    |
| 839, 910, 911, 916–921, 926,                          |                    |
| 931, 932, 934, 935, 957–965,                          |                    |
| 986, 990, 992–998, 1002, 1010,                        |                    |
| 1012, 1013, 1016, 1022, 1024,                         |                    |
| 1065, 1066, 1070–1075, 1081,                          |                    |
| 1086, 1088, 1090, 1112–1120,                          |                    |
| 1142, 1146–1154, 1158, 1166,                          |                    |
| 1168, 1171, 1177, 1179, 1180                          |                    |
| <code>\egroup</code> .. 26, 98, 180, 213, 226, 247,   |                    |
| 394, 433, 479, 502, 504, 644,                         |                    |
| 684, 731, 754, 756, 898, 940,                         |                    |
| 985, 1007, 1010, 1011, 1024,                          |                    |
| 1053, 1095, 1141, 1162, 1167, 1179                    |                    |
| <code>\else</code> .. 8, 13–15, 18–21, 23, 25, 27,    |                    |
| 28, 35, 37, 38, 42, 45, 46, 51,                       |                    |
| 52, 55, 57–67, 74, 81, 84, 100,                       |                    |

101, 104–107, 112, 113, 124,  
126–137, 172, 183, 184, 187–  
197, 204, 206–209, 211–215,  
218, 231, 236, 238, 239, 243,  
245–247, 258, 270, 272, 286,  
290, 291, 293, 296, 297, 299,  
301, 302, 304, 313, 314, 316,  
320, 322, 324, 327, 329, 330,  
332, 333, 353, 384, 385, 387,  
388, 390–393, 395, 396, 400–  
404, 407–416, 423, 425, 435,  
436, 438, 439, 442, 452–464,  
475, 480, 481, 483–490, 495–  
500, 502, 508, 511–513, 515,  
517, 523, 533, 534, 536, 538,  
539, 541–544, 552, 583–588,  
592–594, 603, 606, 608, 609,  
611–615, 620–622, 624–626,  
628–632, 634, 637–643, 645,  
646, 650–655, 657–666, 673,  
675, 686, 687, 689, 690, 693,  
703–715, 726, 727, 732, 733,  
735, 737–742, 747–752, 754,  
760, 763–765, 767, 769, 775,  
785–787, 789, 791–794, 796,  
797, 806, 836, 837, 839–841,  
845–847, 856, 859, 861–869,  
874–876, 878–880, 882–886,  
888, 891–897, 899, 900, 905,  
906, 909, 910, 913–922, 926,  
929, 931, 942, 943, 945, 946,  
950, 955–965, 981, 987, 988,  
990–992, 994–998, 1003–1008,  
1010, 1015, 1019, 1020, 1022–  
1024, 1030, 1037, 1040, 1043,  
1046–1052, 1054, 1055, 1060,  
1061, 1063–1065, 1067–1077,  
1080, 1084, 1086, 1096, 1097,  
1099–1101, 1104, 1105, 1110–  
1120, 1137, 1142, 1143, 1145–  
1153, 1158–1163, 1165, 1171,  
1174–1176, 1178–1180, 1185, 1193  
\emph . . . . . 215, 248, 500, 518,  
752, 770, 1008, 1024, 1163, 1180  
\empty . . . . . 246,  
344, 517, 546, 769, 800, 1024, 1179  
\encodingdefault . . . . .  
. . . . . 26, 394, 644, 898, 1053  
\end . . . . . 187, 231,  
286, 289–295, 297, 298, 300–  
325, 483, 508, 585, 606–610,  
612–627, 734, 759, 838, 859,  
861–881, 989, 1015, 1145, 1171  
\end@doifinlist 58, 410, 660, 916, 1071  
\end@getprefix . . . . .  
. . . . . 213, 499, 751, 1007, 1162  
\end@glis@islistofacronyms . . . . .  
21, 391, 392, 641, 895, 896, 1050  
\EndAccSupp . . . . . 344, 547, 800  
\endcsname 15–18, 26, 42, 47, 49, 50,  
56, 59, 62, 65, 67, 70, 76, 77,  
84, 85, 91–93, 95, 96, 100–107,  
109, 110, 127–129, 141–145,  
162–169, 179, 181, 185, 186,  
191–194, 200, 204–206, 208,  
212–214, 218, 220, 226, 244,  
248, 272–277, 331, 333, 337,  
348, 349, 352, 356, 362–364,  
381, 382, 388–390, 394, 403,  
405, 406, 409, 411, 413, 415–  
417, 420, 421, 425, 429–432,  
435–440, 450, 452–454, 461–  
464, 470–474, 479, 481–483,  
486–488, 493, 495–497, 499,  
500, 502–504, 510, 513, 514,  
516, 518, 544–547, 549–552,  
555, 562, 563, 580–583, 594,  
599, 603, 604, 631, 632, 638–  
640, 644, 653, 655, 656, 659,  
661, 663, 665, 666, 668, 670,  
671, 675, 676, 679–683, 686–  
691, 701, 703–705, 713–715,  
721–726, 730, 731, 733, 734,  
738–740, 744, 747–749, 751–  
756, 762, 765–768, 770, 783,  
797–800, 803–805, 808, 815–  
817, 833–836, 847, 852, 856,  
857, 884, 885, 892–894, 898,  
909–912, 915, 917, 919, 921–  
923, 926, 927, 931, 932, 935–  
939, 942–946, 948, 957, 958,  
967–969, 975–980, 985, 986,  
988, 989, 993–995, 1000, 1002–  
1004, 1006, 1007, 1009, 1010,  
1012, 1022, 1024, 1038–1040,  
1047–1049, 1053, 1064–1067,  
1069, 1070, 1072–1074, 1076–  
1078, 1081, 1082, 1086, 1090–  
1094, 1096–1101, 1103, 1112,  
1113, 1122–1124, 1131–1135,



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1141, 1143–1145, 1148–1151,<br>1155, 1158–1160, 1162, 1163,<br>1165–1167, 1178, 1180, 1193–1195                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 585, 586, 599, 603, 604, 631,<br>634, 638–640, 643, 644, 653,<br>655, 656, 661, 663, 665, 666,<br>668, 670–672, 675, 676, 678–<br>683, 686–691, 701, 703–711,<br>726–728, 731, 732, 734, 737–<br>740, 747–752, 754, 756, 760,<br>761, 765, 766, 768–770, 783,<br>784, 790, 797–800, 803–806,<br>829, 833–836, 838, 839, 852,<br>856, 857, 884, 889, 893, 894,<br>898, 909–911, 917, 919–923,<br>926–928, 931, 932, 934–939,<br>942–948, 955, 957–965, 980,<br>981, 983, 985, 986, 989, 992–<br>995, 1002–1006, 1008, 1010,<br>1012, 1015, 1016, 1020, 1022,<br>1024, 1038–1041, 1043, 1047–<br>1049, 1052, 1053, 1064–1066,<br>1071–1078, 1081, 1082, 1086,<br>1087, 1089–1094, 1096–1103,<br>1109–1120, 1136–1138, 1141,<br>1142, 1144, 1145, 1148–1150,<br>1158–1162, 1164–1168, 1171,<br>1172, 1176, 1178–1180, 1193–1195 |
| <code>\endfoot</code> . . . . . 290–294,<br>296, 297, 301–303, 305, 608–<br>611, 614–616, 861–865, 867–870                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\endgroup</code> . . . . . 6,<br>8, 36, 206, 211, 220, 246, 383,<br>385, 496, 498, 517, 633, 635,<br>650, 748, 750, 769, 887, 889,<br>905, 1003, 1006, 1024, 1042,<br>1043, 1060, 1159, 1161, 1166, 1179                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\endhead</code> . . . . . 290–294,<br>296, 297, 301–303, 305, 608–<br>611, 614–616, 861–865, 867–870                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\endtheglossary</code> 6, 383, 633, 887, 1042                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>entrycounter</code> (option) . . . . . <u>14</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\entryname</code> <u>47</u> , 50, 290, 292–294, 296,<br>297, 301–303, 305, 313, 315–<br>318, 320–325, 405, 406, 608–<br>611, 614–616, 621–623, 625–<br>627, 655, 656, 861–865, 867–<br>870, 874–881, 910, 912, 1065, 1067                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| environments:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>theglossary</code> . . . . . <u>239</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\epreto</code> . . . . . 107, 946, 1101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <code>\expandonce</code> . . . . .<br>. . . 84–86, 96, 130, 131, 191–<br>193, 208, 227, 228, 254, 425,<br>426, 454, 455, 486–488, 497,<br>505, 513, 514, 520, 530, 532,<br>534, 536, 537, 540, 541, 547,<br>675, 676, 683, 705, 706, 738,<br>739, 749, 757, 765, 766, 772,<br>782–786, 788, 790, 793, 794,<br>800, 931, 932, 939, 959, 960,<br>993, 994, 1004, 1012, 1013,<br>1027, 1086, 1087, 1094, 1114,<br>1115, 1148–1150, 1160, 1168, 1183                                                                                                                                                                                                                                                                                                                                                                             |
| <code>\equal</code> . . . 29, 46, 56, 128, 198, 396,<br>404, 409, 453, 491, 515, 603,<br>646, 654, 659, 704, 743, 767,<br>856, 900, 910, 915, 957, 998,<br>1040, 1055, 1064, 1070, 1112, 1154                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>esclocations</code> (option) . . . . . <u>12</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\exp</code> . . . . . 44, 222–224, 281                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\expandafter</code> 8, 16–18, 25, 26, 42, 46,<br>49, 59, 61, 62, 64–67, 70, 76–<br>78, 84, 85, 89–93, 95, 96, 100–<br>110, 122, 126, 128–137, 170–<br>172, 175, 180, 182, 183, 186,<br>190–192, 194, 204–207, 209,<br>211, 212, 215, 218, 220, 225–<br>227, 231, 240, 244, 246, 248,<br>272–277, 331, 337, 348, 349,<br>352, 353, 380–382, 385, 389,<br>390, 394, 403–406, 411, 413–<br>417, 420–422, 425–432, 435–<br>440, 450, 452–460, 475, 479,<br>480, 482, 483, 485–488, 495–<br>500, 502, 504, 508, 509, 513,<br>514, 516–518, 532, 537, 544–<br>547, 549–553, 576, 580–583, | <code>\ExplSyntaxOff</code> . . . . . 6, 45, 107,<br>138, 225, 243, 282, 887, 1021,<br>1022, 1041, 1101, 1121, 1177, 1178                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <code>\ExplSyntaxOn</code> . . . . . 4, 43, 107,<br>138, 221, 242, 243, 279, 886,<br>1021, 1022, 1041, 1101, 1121, 1177                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>F</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\fi</code> . . . . . 7, 8, 10, 11, 13–16,<br>18–21, 23, 25, 27, 28, 30, 32,<br>34, 35, 37, 38, 40–42, 45, 46,<br>50–52, 55, 57–67, 74, 77, 81,                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

84, 96, 100–107, 112, 113, 124,  
126–137, 172, 181, 183, 184,  
187, 189–195, 197, 199, 204–  
209, 211–216, 218, 220, 221,  
232, 235–239, 243, 244, 246,  
247, 258, 268, 270, 272, 286,  
290, 291, 293, 296, 297, 299,  
301, 303, 304, 313, 314, 316,  
320, 322, 324, 327–333, 344,  
353, 383–396, 398, 400–404,  
406–416, 421, 423, 425, 435–  
439, 442, 452–464, 475, 479–  
481, 483, 485–489, 491, 492,  
496–503, 508, 511–513, 515–  
518, 523, 530, 531, 533, 534,  
536–544, 546, 547, 553, 582–  
588, 592–594, 603, 606, 608,  
609, 611–615, 620–622, 624–  
626, 628–643, 645–647, 650–  
655, 657–666, 671, 673, 675,  
683, 685–690, 693, 703–716,  
727, 731–733, 735, 737–744,  
747–755, 760, 763–765, 767–  
769, 775, 782, 783, 785–787,  
789, 791–797, 799, 800, 806,  
835–837, 839–841, 845–847,  
856, 859, 861–869, 874–876,  
878–880, 882–897, 899, 900,  
902–910, 912–922, 926, 927,  
929, 931, 939, 941–946, 949,  
950, 955–965, 981, 986–988,  
990–992, 994–999, 1003–1011,  
1016, 1018–1020, 1022–1024,  
1030, 1037, 1038, 1040, 1042–  
1052, 1054, 1055, 1057, 1058,  
1060–1065, 1067–1077, 1080,  
1082, 1084, 1086, 1094, 1096–  
1098, 1100, 1101, 1104, 1105,  
1110–1120, 1137, 1141–1143,  
1145, 1147, 1148, 1150, 1152–  
1154, 1158–1166, 1171, 1174–  
1176, 1178–1180, 1185, 1192, 1193

`\findrootlanguage` . . . . . 65, 415, 665

`first` (key) . . . . . 79

`firstaccess` (key) . . . . . 345

`\firstacronymfont` . . . . . 122, 253,  
257–259, 264, 361, 362, 371,  
372, 377, 450, 520, 522, 523,  
528, 532, 535, 537, 539, 562,  
568, 569, 573, 700, 701, 772,  
774, 775, 780, 784, 788, 790,  
792, 815, 821, 822, 826, 955,  
1026, 1029, 1030, 1034, 1035,  
1109, 1110, 1182, 1184–1186, 1190

`firstplural` (key) . . . . . 79

`firstpluralaccess` (key) . . . . . 345

`\fmtversion` . . . . . 27, 395, 645, 899, 1054

`\footnote` . . . . . 264, 269,  
377, 528, 531, 573, 780, 784,  
826, 1034, 1035, 1037, 1190, 1193

`footnote` (acrstyle) . . . . . 264, 377

`footnote` (option) . . . . . 32

`footnote-desc` (acrstyle) . . . . . 266, 379

`footnote-sc` (acrstyle) . . . . . 265, 378

`footnote-sc-desc` (acrstyle) . . . . . 266, 379

`footnote-sm` (acrstyle) . . . . . 265, 379

`footnote-sm-desc` (acrstyle) . . . . . 266, 379

`\FootnoteNewAcronymDef` . . . . . 270,  
380, 537, 538, 578, 790, 791, 832

`\footnotesize` . . . . . 8, 385, 634, 888, 1043

`\forallacronyms` 67, 416, 666, 922, 1077

`\forallglossaries` . . . . . 66, 67, 204,  
217, 331, 416, 495, 501, 630,  
666, 747, 753, 884, 922, 1002,  
1009, 1076, 1077, 1158, 1164, 1165

`\forallglentries` 35, 67, 110, 111,  
114, 181, 182, 400, 416, 440,  
441, 443, 480, 650, 666, 691–  
693, 731, 905, 922, 948–950,  
986, 1059, 1077, 1103, 1105, 1142

`\ForEachTrackedDialect` . . . . .  
. . . . . 49, 335, 336, 406,  
581, 598, 656, 834, 851, 912, 1066

`\forallglentries` . . . . .  
. . . . . 67, 67, 70, 104, 229, 331,  
416, 417, 438, 507, 630, 666,  
668, 689, 759, 884, 922, 923,  
945, 1014, 1077, 1078, 1099, 1170

`\foralllistcsloop` . . . . .  
. . . . . 221, 225, 231, 504, 508,  
755, 759, 1011, 1015, 1167, 1171

`\foralllistloop` 202, 233, 494, 509, 746,  
761, 1001, 1017, 1156, 1157, 1172

## G

`\gdef` . . . . . 17, 36, 59, 75, 76, 95, 100,  
101, 206, 237, 281, 389, 411,  
420, 431, 435, 496, 511, 512,  
603, 639, 650, 661, 670, 682,  
686, 748, 763, 856, 893, 905,

|                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 917, 926, 938, 942, 1003, 1019,<br>1040, 1048, 1060, 1072, 1081,<br>1093, 1096, 1097, 1159, 1174, 1175                                                                                                                                                           | <code>\glo@label</code> . . . . . 70, 104, 417,<br>438, 668, 689, 923, 945, 1078, 1099                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>\Genacrfullformat</code> . . . . .                                                                                                                                                                                                                         | <code>\glo@list</code> . . . 104, 438, 689, 945, 1099                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| . . . . . 121, <u>122</u> , 255, 257,<br>258, 264, 361, <u>362</u> , 371, 372,<br>377, 449, 450, 521–523, 528,<br>561, 562, 568, 569, 573, 700,<br>772–775, 780, 814, 815, 821,<br>822, 826, 954, 955, 1027, 1029,<br>1030, 1034, 1109, 1183–1186, 1190          | <code>\glo@name</code> . . 240, 513, 765, 1020, 1176                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>\genacrfullformat</code> . . . . .                                                                                                                                                                                                                         | <code>\glo@parent</code> . . . 70, 417, 668, 923, 1078                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| . . . . . 121, <u>121</u> , 122, 255,<br>257, 258, 264, 361, <u>361</u> , 371,<br>377, 449, 450, 520–523, 528,<br>561, 568, 569, 573, 700, 701,<br>772–775, 780, 814, 815, 821,<br>822, 826, 954, 955, 1027, 1029,<br>1030, 1034, 1109, 1183–1185, 1190          | <code>\glo@type</code> . . . 104, 438, 689, 945, 1099                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <code>\GenericAcronymFields</code> . . . . .                                                                                                                                                                                                                     | <code>\glo@value</code> . . . 89, 427, 678, 934, 1089                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| . . . . . 254, <u>255</u> , 257, 258,<br>260, 261, 263, 264, 266, 371–<br>377, 379, 380, 520–530, 568–<br>570, 572, 573, 575, 772–781,<br>821–826, 828, 829, 1027–1034,<br>1036, 1183–1185, 1187–1190, 1192                                                      | <code>\global</code> . . . . . 17, 18, 84,<br>87, 97, 103, 110, 206, 219, 232,<br>233, 237, 299, 389, 390, 425,<br>427, 433, 437, 440, 496, 502,<br>508, 509, 512, 613, 639, 640,<br>675, 677, 684, 688, 691, 748,<br>754, 760, 761, 764, 866, 893,<br>894, 931, 933, 940, 944, 948,<br>1003, 1010, 1016, 1019, 1048,<br>1049, 1086, 1088, 1095, 1099,<br>1103, 1159, 1166, 1171, 1172, 1175                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>\Genplacrfullformat</code> . . . . .                                                                                                                                                                                                                       | <code>\glolinkprefix</code> 127, <u>128</u> , 180, 239,<br>453, 479, 513, 704, 731, 765,<br>957, 986, 1020, 1112, 1141, 1176                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| . . . . . 121, <u>122</u> , 255, 257, 258,<br>264, 361, <u>362</u> , 371, 372, 377,<br>449, 450, 521–523, 528, 561,<br>562, 568, 569, 573, 700, 701,<br>773–775, 780, 814, 815, 821,<br>822, 826, 954, 955, 1027–1030,<br>1035, 1109, 1110, 1183–1186, 1190      | <code>\glosortentrieswarning</code> . . . . 23,<br><u>23</u> , 225, 392, 393, 503, 642,<br>755, 896, 897, 1011, 1051, 1166                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\genplacrfullformat</code> . . . . .                                                                                                                                                                                                                       | <code>\glossaries</code> . . . . . 279–281                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| . . . . . 121, 122, <u>122</u> , 255, 257, 258,<br>264, 361, <u>362</u> , 371, 372, 377,<br>449, 450, 521–523, 528, 561,<br>562, 568, 569, 573, 700, 701,<br>773–775, 780, 814, 815, 821,<br>822, 826, 954, 955, 1027–1030,<br>1035, 1109, 1110, 1183–1186, 1190 | <code>\GlossariesWarning</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\GetTitleStringDisableCommands</code>                                                                                                                                                                                                                      | . . . . . 7, 9, 23, <u>23</u> , 24, 27–29,<br>34, 35, 37, 39, 40, 48, 54, 57,<br>69, 73, 74, 81, 84, 87–89, 114–<br>116, 179, 193, 195, 196, 200–<br>203, 206, 208, 213, 216–218,<br>271, 344, 384, 386, 392, 393,<br>395, 396, 399–402, 408, 410,<br>417, 419, 423, 425, 443, 444,<br>450, 451, 478, 489, 490, 492–<br>496, 499, 501, 502, 514, 516,<br>546, 582, 633–635, 642, 643,<br>645, 646, 649–652, 658, 660,<br>667, 670, 673, 675, 677, 678,<br>694, 701, 702, 730, 741, 742,<br>744–748, 751, 753, 754, 766,<br>768, 795, 800, 835, 887–889,<br>896, 897, 899, 900, 904, 905,<br>907, 911, 914, 916, 923, 925,<br>926, 929, 931, 933, 934, 951,<br>985, 995–997, 999–1004, 1007,<br>1009, 1037, 1042–1044, 1051,<br>1052, 1054, 1055, 1058–1060,<br>1062, 1066, 1068, 1070, 1077,<br>1080, 1084, 1085, 1088, 1089, |
| <code>\GetTitleStringSetup</code> . . . . . 285, 859                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>\glo@desc</code> . . . . . 588, 841                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>\glo@do@compare</code> . . . . . 227,<br>228, 505, 757, 1012, 1013, 1168                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>\glo@grabfirst</code> 225, <u>231</u> , 508, 509,<br>760, 761, 1015, 1016, 1171, 1172                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

1106, 1140, 1150–1153, 1155–1157, 1159, 1160, 1163–1165, 1193  
 \GlossariesWarningNoLine . . . . .  
     . . . . . 7, 23, 23, 43, 199, 201, 204, 221, 281, 384, 392, 393, 491–493, 495, 503, 603, 633, 634, 642, 744, 745, 747, 755, 856, 887, 888, 896, 897, 999, 1000, 1002, 1003, 1011, 1040, 1042, 1043, 1051, 1155, 1158, 1166  
 \glossary . . . . . 39, 39, 40, 401, 402, 583, 651, 652, 836, 907, 1062  
 \glossaryentry . . . . .  
     213, 214, 499, 500, 583, 751, 752, 836, 1006, 1007, 1162, 1163  
 glossaryentry (counter) . . . . . 14  
 \glossaryentryfield 241, 370, 513, 514, 568, 588–593, 595–597, 765, 766, 821, 841–846, 848–850  
 \glossaryentrynumbers 11, 12, 187, 218, 219, 232, 233, 236, 237, 386, 387, 483, 502, 509, 511, 512, 585, 636, 735, 754, 760, 761, 763, 764, 838, 890, 989, 1009, 1010, 1016, 1019, 1045, 1145, 1165, 1166, 1172, 1174, 1175  
 \glossaryheader . . . . . 187, 231, 239, 282, 286, 287, 289–294, 296, 297, 300–305, 307–310, 312, 314, 315, 319, 321, 323, 326, 328–330, 332, 334, 483, 508, 513, 585, 604, 606–611, 613–622, 624–626, 628–632, 734, 759, 765, 838, 857, 859–865, 867–876, 878–886, 989, 1015, 1020, 1145, 1171, 1176  
 \glossarymark . . . . .  
     . 55, 55, 408, 658, 659, 914, 1069  
 \glossaryname . . . . . 19, 47, 49, 50, 390, 405, 406, 640, 655, 656, 894, 910–912, 1049, 1065–1067  
 \glossarypostamble . . . . .  
     . . . . . 54, 187, 231, 408, 483, 508, 585, 658, 734, 760, 838, 914, 989, 1015, 1068, 1145, 1171  
 \glossarypreamble . . . . .  
     . . . . . 54, 186, 230, 408, 482, 507, 585, 658, 734, 759, 838, 913, 989, 1015, 1068, 1144, 1170  
 \glossarysection . . . . .  
     . . . . . 54, 186, 230, 408, 482, 507, 585, 658, 734, 759, 838, 914, 989, 1015, 1068, 1144, 1170  
 \glossarystyle . . . . . 244, 516, 768  
 glossarysubentry (counter) . . . . . 15  
 \glossarysubentryfield . . . . .  
     . . . . . 241, 370, 514, 515, 568, 588–597, 766, 821, 841–850  
 \glossarytitle . . . . .  
     186, 218, 230, 234, 482, 502, 507, 510, 585, 734, 753, 754, 759, 762, 838, 989, 1009, 1010, 1015, 1017, 1144, 1165, 1170, 1173  
 \glossarytoctitle . . . . . 11, 19, 20, 40, 41, 47, 50, 54, 186, 218, 230, 235, 386, 390, 391, 402, 403, 405, 406, 408, 482, 502, 507, 510, 511, 585, 636, 640, 641, 653, 655, 656, 658, 734, 753, 759, 762, 763, 838, 890, 894, 895, 908, 910, 912, 914, 989, 1009, 1015, 1018, 1045, 1049, 1050, 1063, 1065, 1067, 1068, 1144, 1165, 1170, 1173, 1174  
 \glossentry 104, 219, 233, 240, 282, 286–289, 291, 292, 301, 302, 304, 312, 314, 316, 319, 321, 323, 327, 328, 330, 332, 438, 502, 509, 514, 604, 606–609, 613–615, 620–622, 624–626, 628–631, 689, 754, 761, 766, 857, 859–863, 867–869, 874–876, 878–883, 885, 945, 1010, 1016, 1020, 1100, 1165, 1172, 1176  
 \Glossentrydesc . . . . .  
     . . . . . 138, 240, 370, 514, 567, 766, 820, 1021, 1121, 1176, 1177  
 \glossentrydesc . . . . . 138, 240, 240, 283, 286–289, 291–293, 301, 302, 304, 312, 314, 316, 319–321, 323, 327, 328, 330, 332, 333, 370, 514, 567, 605–609, 613–615, 620–622, 624–626, 628–632, 765, 820, 858–863, 867–869, 874–876, 878–880, 882–885, 1021, 1121, 1176, 1177  
 \Glossentryname . . . . . 138, 240, 513, 765, 1021, 1121, 1176  
 \glossentryname . . . . . 138, 240,

240, 241, 283, 285–289, 291,  
 292, 301, 302, 304, 312, 314,  
 316, 319, 321, 323, 327, 328,  
 330, 332, 333, 369, 370, 513,  
 567, 604–609, 613–615, 620–  
 622, 624–626, 628–632, 765,  
 820, 858–863, 867–869, 874–  
 876, 878–880, 882, 883, 885,  
 1020, 1021, 1121, 1176, 1177  
 \glossentrynameother . . . . 138, 1121  
 \Glossentrysymbol . . . . .  
 . . . . . 138, 241, 370, 514,  
 567, 766, 821, 1021, 1121, 1177  
 \glossentrysymbol . . . . 138, 240,  
 241, 283, 292, 293, 304, 316,  
 323, 327, 328, 330, 332, 333,  
 370, 514, 567, 604, 605, 609,  
 615, 622, 626, 628–632, 766,  
 821, 858, 863, 869, 876, 880,  
 882, 883, 885, 1021, 1121, 1177  
 \GLS . . . . . 142, 462, 713, 967, 1123  
 \Gls . . . . . 115, 141, 141,  
 248, 268, 443, 461, 518, 530,  
 694, 713, 770, 782, 951, 967,  
 1024, 1037, 1106, 1122, 1180, 1192  
 \gls . . . . . 39, 114,  
140, 141, 200, 238, 248, 268,  
 402, 443, 461, 492, 512, 518,  
 530, 652, 694, 713, 744, 764,  
 770, 782, 907, 951, 966, 967,  
 999, 1020, 1024, 1037, 1062,  
 1106, 1122, 1155, 1175, 1180, 1192  
 \gls@delimN . . . . . 246, 1023, 1179  
 \gls@accessibility . . . . .  
 . . . . . 344, 345, 547, 800, 801  
 \gls@accsupp@engine 344, 344, 547, 800  
 \gls@Alphpage . . . . .  
 . . . . . 207, 207, 211, 497, 498,  
 748–750, 1004, 1006, 1159–1161  
 \gls@alphpage . . . . .  
 . . . . . 207, 207, 211, 497, 498,  
 748–750, 1004, 1006, 1159–1161  
 \gls@arabicpage . . . . .  
 . . . . . 207, 207, 211, 497, 498,  
 748–750, 1004, 1005, 1159–1161  
 \gls@assign@desc 97, 97, 103, 433,  
 437, 684, 688, 940, 944, 1095, 1098  
 \gls@assign@desc@field . . . . . 24  
 \gls@assign@descplural 531, 538,  
 540, 542, 576, 579, 580, 783,  
 790, 791, 793, 795, 830, 832, 833  
 \gls@assign@descplural@field . . . . . 25  
 \gls@assign@field . . . . .  
 . . . . . 86, 86, 91, 92, 97, 99,  
 101–103, 337, 426, 429, 433,  
 434, 436, 437, 599, 676, 680,  
 684–688, 852, 932, 936, 940–  
 944, 1087, 1090, 1091, 1095–1098  
 \gls@assign@firstpl 531–534, 536,  
 538, 540–542, 576–580, 782,  
 783, 785–791, 793, 795, 829–833  
 \gls@assign@name@field . . . . . 25  
 \gls@assign@plural . . . . . 531–534,  
 536, 538, 540–542, 576–580,  
 783, 785–791, 793, 795, 830–833  
 \gls@assign@symbolplural . . . . .  
 . . . . . 531–534, 536,  
 540–542, 577, 578, 580, 783,  
 785–789, 793, 795, 830, 831, 833  
 \gls@assign@type@field . . . . . 24  
 \gls@automake@makegloss . . . . .  
 . . . . . 36, 37, 38, 197,  
 905, 906, 998, 1060, 1061, 1153  
 \gls@automake@nr . . . . . 36, 37,  
 38, 44, 197, 400, 491, 651, 742,  
 905, 906, 997, 1060, 1061, 1153  
 \gls@automake@option . . . . . 36,  
36, 37, 38, 905, 906, 1060, 1061  
 \gls@automake@val . . . . . 36–  
 38, 400, 651, 905, 906, 1060, 1061  
 \gls@begindocdefs . . . . .  
 . . . . . 88, 88, 427, 678, 934, 1088  
 \gls@checkisacronymlist . . . . .  
 . . . . . 22, 126, 392,  
 452, 641, 703, 896, 956, 1050, 1111  
 \gls@checkseeallowed . . . . .  
 . . . . . 81, 81, 198, 200, 423,  
 426, 491, 492, 673, 743, 744,  
 929, 998, 1000, 1084, 1154, 1155  
 \gls@checkseeallowed@preambleonly  
 . . . . . 81, 423, 426, 673, 929, 1084  
 \gls@codepage . . . . . 34, 66,  
 195, 196, 221, 399, 415, 489,  
 490, 503, 649, 665, 666, 741,  
 742, 755, 903, 921, 995, 996,  
 1011, 1058, 1076, 1151, 1152, 1166  
 \gls@debug@nr . . . . .  
 . . . . . 7, 384, 402, 633, 652, 887, 1042  
 \gls@debug@val . . . . .  
 . . . . . 7, 384, 402, 633, 652, 887, 1042

|                                                      |                                                      |
|------------------------------------------------------|------------------------------------------------------|
| <code>\gls@defdocnewglossaryentry</code> . . .       | <code>\gls@inlinepostchild</code> . . . . .          |
| . . . . . 86, 88, 112,                               | 282–                                                 |
| 426, 427, 441, 677, 678, 692,                        | 284, 588, 604, 605, 841, 857, 858                    |
| 933, 934, 949, 1087, 1088, 1104                      | <code>\gls@inlinesep</code> . . . . .                |
| <code>\gls@defglossaryentry</code> . . . . .         | 282,                                                 |
| . . . . . 86–89, 98, 98,                             | 283, 588, 604, 605, 841, 857, 858                    |
| 426, 427, 433, 677, 678, 684,                        | <code>\gls@inlinesubsep</code> . . . . .             |
| 933, 934, 940, 1087–1089, 1095                       | 282,                                                 |
| <code>\gls@delimN</code> . . . . .                   | 283, 588, 604, 605, 841, 857, 858                    |
| 246, 246, 1023, 1179                                 | <code>\gls@islistofacronyms</code> . . . . .         |
| <code>\gls@delimR</code> . . . . .                   | 21, 391, 392, 641, 895, 896, 1050                    |
| 246, 246, 1023, 1179                                 | <code>\gls@istfilebase</code> . . . . .              |
| <code>\gls@disablepagerefexpansion</code> . .        | . . . . . 51, 51, 195, 196, 407,                     |
| 206, 207, 211, 496–498, 748–                         | 489, 490, 657, 741, 742, 912,                        |
| 750, 1003, 1004, 1006, 1159, 1161                    | 913, 995, 996, 1067, 1151, 1152                      |
| <code>\gls@do@addxdyattribute</code> . . . . .       | <code>\gls@kernelglossredefs@nr</code> . . . . .     |
| . . . . . 60, 411, 661, 917, 1072                    | . . . . . 40, 907, 1062                              |
| <code>\gls@docdef@addlabel</code> . . . . .          | <code>\gls@kernelglossredefs@val</code> . . . . .    |
| . 87, 88, 677, 678, 933, 934, 1088                   | . . . . . 40, 907, 1062                              |
| <code>\gls@docdef@labellist</code> . . . . .         | <code>\gls@label</code> . 248, 518, 770, 1024, 1180  |
| . . . . . 87, 87, 677, 933, 1088                     | <code>\gls@level</code> . . . . .                    |
| <code>\gls@docclearpage</code> . . . . .             | 84,                                                  |
| 56,                                                  | 100, 101, 232, 425, 435, 508,                        |
| 57, 409, 410, 659, 660, 915, 1070                    | 509, 675, 686, 760, 931, 942,                        |
| <code>\gls@doentryfmt</code> 74, 420, 670, 926, 1081 | 1016, 1086, 1096, 1097, 1171, 1172                   |
| <code>\gls@dosubst</code> . . . . .                  | <code>\gls@local@stepcounter</code> . . . . .        |
| . . . 130, 455, 705, 706, 959, 1114                  | . . . . . 107, 107, 946, 1101                        |
| <code>\gls@dotocitle</code> . . . . .                | <code>\gls@measuring@reset</code> . . . . .          |
| 218, 219,                                            | . . 107, 108, 946, 947, 1101, 1102                   |
| 234, 235, 502, 510, 754, 762,                        | <code>\gls@mfirstuc@nr</code> . 41, 908, 909, 1063   |
| 1009, 1010, 1017, 1018, 1165, 1173                   | <code>\gls@mfirstuc@val</code> . . . . 41, 908, 1063 |
| <code>\gls@end@sanitizesort</code> . . . . .         | <code>\gls@newacronym</code> 249, 249, 1025, 1180    |
| 25,                                                  | <code>\gls@noidx@nonumberlist</code> . . . . .       |
| 26, 394, 643, 644, 898, 1052, 1053                   | . . 81, 203, 929, 1002, 1084, 1157                   |
| <code>\gls@endcheck</code> . . . . .                 | <code>\gls@noidxglossary</code> . . . . .            |
| . . . . 85, 86, 426, 676, 932, 1087                  | . . . . . 200, 204, 492, 495,                        |
| <code>\gls@glossary</code> . . 39, 40, 205, 212–     | 744, 747, 999, 1002, 1155, 1158                      |
| 214, 402, 496, 499, 500, 652,                        | <code>\gls@nonumberlist@nr</code> . . . . .          |
| 748, 751, 752, 907, 908, 1003,                       | . . . . . 81, 423, 673, 929, 1084                    |
| 1006, 1007, 1062, 1158, 1162, 1163                   | <code>\gls@nonumberlist@val</code> . . . . .         |
| <code>\gls@glsdefs@addlabel</code> . . . . .         | . . . . . 81, 423, 673, 929, 1084                    |
| 87, 89, 677, 678, 933, 934, 1088, 1089               | <code>\gls@nosetquote</code> . . . . .               |
| <code>\gls@glsdefs@labellist</code> . . . . .        | 98, 188,                                             |
| . . . . . 87, 87, 677, 933, 1088                     | 190, 193, 433, 484, 485, 488,                        |
| <code>\gls@gobbleopt</code> . . . . .                | 684, 735, 737, 740, 940, 990,                        |
| 75, 76,                                              | 992, 994, 1095, 1146, 1147, 1150                     |
| 420, 421, 670, 671, 926, 927, 1081                   | <code>\gls@number</code> . 211, 498, 750, 1005, 1161 |
| <code>\gls@grplabel</code> . . . 278, 603, 856, 1040 | <code>\gls@numberedsection@nr</code> . . . . .       |
| <code>\gls@hypergroup rerun</code> . . . . .         | . 10, 235, 386, 510, 511, 636,                       |
| . . . . . 281, 281, 603, 856, 1040                   | 762, 890, 1018, 1044, 1173, 1174                     |
| <code>\gls@if@measuring</code> . . . . .             | <code>\gls@numberedsection@val</code> . . . . .      |
| . . . 106, 107, 108, 946, 947, 1101                  | . . . . . 10, 235, 386, 510,                         |
| <code>\gls@ifnotmeasuring</code> . . . 107, 108,     | 636, 762, 890, 1018, 1044, 1173                      |
| 109, 206, 439, 440, 690, 691,                        |                                                      |
| 946–948, 1003, 1101–1103, 1159                       |                                                      |

|                                                       |                                                       |
|-------------------------------------------------------|-------------------------------------------------------|
| <code>\gls@numberpage</code> .....                    | <code>\gls@seenoindex@val</code> .....                |
| .... 207, 207, 211, 497, 498,                         | ..... 9, 385, 635, 889, 1044                          |
| 748–750, 1004, 1005, 1159–1161                        | <code>\gls@set@xr@key</code> .....                    |
| <code>\gls@org@glossaryentryfield</code> ...          | .... 80, 80, 423, 673, 929, 1083                      |
| ..... 219, 502, 754, 1010, 1165                       | <code>\gls@start@measuring</code> .....               |
| <code>\gls@org@glossarysubentryfield</code>           | 107, 107, 108, 946, 947, 1101, 1102                   |
| . 219, 502, 754, 1010, 1165, 1166                     | <code>\gls@stop@measuring</code> .....                |
| <code>\gls@org@insert</code> .....                    | ..... 108, 108, 947, 1101, 1102                       |
| 535, 537, 539, 787, 789, 790, 792                     | <code>\gls@suffixF</code> .....                       |
| <code>\gls@org@label</code> 106–108, 946, 947, 1101   | 52, 52,                                               |
| <code>\gls@org@link</code> 107, 108, 946, 947, 1101   | 187, 189, 407, 483, 485, 585,                         |
| <code>\gls@org@refstepcounter</code> .....            | 587, 657, 735–737, 839, 840,                          |
| ... 106, 107, 108, 946, 947, 1101                     | 913, 989–991, 1068, 1145, 1147                        |
| <code>\gls@org@target</code> .....                    | <code>\gls@suffixFF</code> .....                      |
| ..... 107, 108, 946, 947, 1101                        | 52, 53,                                               |
| <code>\gls@org@Alph</code> .....                      | 187, 189, 407, 483, 485, 585–                         |
| . 211, 498, 750, 1005, 1006, 1161                     | 587, 657, 735, 737, 839, 840,                         |
| <code>\gls@org@alph</code> .....                      | 913, 989–991, 1068, 1145, 1147                        |
| . 211, 498, 750, 1005, 1006, 1161                     | <code>\gls@text</code> 122, 450, 701, 955, 1109, 1110 |
| <code>\gls@org@arabic</code> .....                    | <code>\gls@the</code> ... 211, 498, 750, 1005, 1161   |
| ..... 211, 498, 750, 1005, 1161                       | <code>\gls@thissty</code> .. 31, 398, 648, 902, 1057  |
| <code>\gls@org@number</code> .....                    | <code>\gls@tmp</code> .....                           |
| ..... 211, 498, 750, 1005, 1161                       | 197, 199, 204, 270,                                   |
| <code>\gls@org@Roman</code> .....                     | 495, 539, 747, 792, 997, 999,                         |
| . 211, 498, 750, 1005, 1006, 1161                     | 1002, 1037, 1153, 1154, 1158, 1193                    |
| <code>\gls@org@romannumeral</code> .....              | <code>\gls@tmplen</code> .....                        |
| ..... 211, 498, 750, 1005, 1161                       | 137,                                                  |
| <code>\gls@org@the</code> . 211, 498, 750, 1005, 1161 | 138, 331, 333, 460, 594, 630–                         |
| <code>\gls@original@glossary</code> .... 39,          | 632, 712, 847, 884, 885, 966, 1120                    |
| 40, 401, 402, 651, 652, 907, 1062                     | <code>\gls@tr@set@acronym@toctitle</code> ..          |
| <code>\gls@original@makeglossary</code> ....          | 20, 391, 640, 641, 895, 1049, 1050                    |
| ..... 39, 40,                                         | <code>\gls@tr@set@main@toctitle</code> .....          |
| 401, 402, 651, 652, 907, 908, 1062                    | ..... 19, 390, 640, 894, 1049                         |
| <code>\gls@printglossary@begin</code> .....           | <code>\gls@tr@set@numbers@toctitle</code> ..          |
| ..... 218, 219, 1165, 1166                            | ..... 41, 403, 653, 908, 1063                         |
| <code>\gls@printglossary@end</code> 219, 220, 1166    | <code>\gls@tr@set@symbols@toctitle</code> ..          |
| <code>\gls@protected@pagefmts</code> 130, 207,        | ..... 40, 402, 653, 908, 1063                         |
| 207, 208, 454, 497, 705, 748,                         | <code>\gls@translate@nr</code> .....                  |
| 749, 959, 1004, 1114, 1159, 1160                      | ..... 30, 397, 647, 901, 1056                         |
| <code>\gls@Romanpage</code> .....                     | <code>\gls@translate@val</code> .....                 |
| .... 207, 207, 211, 497, 498,                         | ..... 30, 397, 647, 901, 1056                         |
| 748–750, 1004, 1006, 1159–1161                        | <code>\gls@wrglossary</code> .....                    |
| <code>\gls@romanpage</code> .....                     | .. 206, 206, 496, 748, 1003, 1159                     |
| .... 207, 207, 211, 497, 498,                         | <code>\gls@xdy@set@lang</code> .....                  |
| 748–750, 1004, 1005, 1159–1161                        | . 33, 195, 196, 220, 903, 995,                        |
| <code>\gls@save@numberlist</code> .....               | 996, 1010, 1058, 1151, 1152, 1166                     |
| .. 11, 12, 216, 386, 387, 501,                        | <code>\gls@xdystring</code> .....                     |
| 636, 752, 890, 1008, 1045, 1164                       | 130, 454, 455, 705, 706, 959, 1114                    |
| <code>\gls@seenoindex@nr</code> .....                 | <code>\gls@xindy@glsnumbersfalse</code> ....          |
| ..... 9, 385, 635, 889, 1044                          | ..... 34, 399, 649, 904, 1058                         |
|                                                       | <code>\gls@xindy@glsnumberstrue</code> .....          |
|                                                       | ..... 33, 399, 649, 903, 1058                         |

|                                                               |                                                           |
|---------------------------------------------------------------|-----------------------------------------------------------|
| <code>\gls@xr@key</code> .....                                | <code>\glsautomakefalse</code> .....                      |
| 9, 81, <u>81</u> , 385, 386, 423, 635,                        | 37,                                                       |
| 673, 889, 929, 1044, 1083, 1084                               | 197, 400, 401, 491, 651, 743,                             |
| <code>\glsaccessdisplay</code> .... <u>356</u> , 555, 808     | 906, 997, 998, 1060, 1061, 1153                           |
| <code>\glsaccessibility</code> .....                          | <code>\glsautomaketrue</code> .....                       |
| .... <u>344</u> , 353, 547, 552, 800, 805                     | 37, 38, 400, 651, 906, 1060, 1061                         |
| <code>\glsaccsupp</code> 352, 353, <u>353</u> , 552, 805, 806 | <code>\glsautoprefix</code> .....                         |
| <code>\glsacronymtrue</code> 20, 391, 641, 895, 1050          | .. <u>10</u> , 11, 235, 386, 511, 636,                    |
| <code>\glsacrpluralsuffix</code> .....                        | 763, 890, 1018, 1044, 1045, 1174                          |
| .. 48, <u>48</u> , 249, 259, 263–265,                         | <code>\glsbackslash</code> .....                          |
| 405, 518, 524, 527–529, 531,                                  | .... 44, <u>182</u> , 480, 732, 986, 1142                 |
| 655, 770, 776, 779–781, 784,                                  | <code>\glscapitalisewords</code> .....                    |
| 911, 1025, 1031, 1034–1036,                                   | .... 175, <u>175</u> , 728, 982, 983, 1138                |
| 1065, 1180, 1186, 1187, 1190, 1191                            | <code>\glsapscase</code> .....                            |
| <code>\glsacrshortcutsfalse</code> .....                      | 117, 118,                                                 |
| .... 45, 404, 654, 909, 1064                                  | 120, 121, 140–145, 161–169,                               |
| <code>\glsacrshortcutstrue</code> .....                       | 262, 357–364, 374, 375, 444,                              |
| .... 45, 403, 654, 909, 1064                                  | 445, 447–449, 461–464, 470–                               |
| <code>\glsacspace</code> .....                                | 474, 526, 535, 539, 555, 556,                             |
| 257,                                                          | 558–563, 571, 695, 696, 698–                              |
| 258, <u>258</u> , 260, 522, 523, 525,                         | 700, 713–715, 721–726, 778,                               |
| 774–776, 1029–1031, 1185, 1187                                | 788, 792, 808, 809, 811–817,                              |
| <code>\glsadd</code> .....                                    | 824, 952–954, 966–969, 975–                               |
| 39, 181,                                                      | 980, 1033, 1107–1109, 1122–                               |
| <u>181</u> , 182, 402, 479, 480, 652,                         | 1124, 1131–1135, 1188, 1189                               |
| 731, 907, 986, 1062, 1141, 1142                               | <code>\glsacategory</code> .....                          |
| <code>\glsaddall</code> .. <u>181</u> , 480, 731, 986, 1142   | 352, 552, 805                                             |
| <code>\glsaddallunused</code> .....                           | <code>\glsaclearpage</code> .....                         |
| .... <u>182</u> , 480, 731, 986, 1142                         | 56, <u>57</u> ,                                           |
| <code>\glsaddkey</code> ... <u>91</u> , 429, 680, 936, 1091   | 409, 410, 659, 660, 915, 1069, 1070                       |
| <code>\GlsAddLetterGroup</code> .....                         | <code>\glsaclosebrace</code> . 63, <u>182</u> , 187, 188, |
| .... <u>66</u> , 416, 666, 922, 1076                          | 414, 480, 483, 585, 586, 664,                             |
| <code>\glsaddprotectedpagefmt</code> .....                    | 732, 735, 838, 839, 919, 920,                             |
| .. <u>207</u> , 208, 497, 749, 1004, 1160                     | 986, 989, 990, 1074, 1142, 1145                           |
| <code>\GlsAddSortRule</code> .....                            | <code>\glsacompositor</code> .....                        |
| .... <u>64</u> , 414, 415, 665, 920, 1075                     | 52, <u>52</u> , 62,                                       |
| <code>\glsaddstoragekey</code> .....                          | 189, 407, 413, 485, 585, 587,                             |
| .... <u>90</u> , 429, 679, 935, 1090                          | 657, 663, 736, 838, 840, 913,                             |
| <code>\GlsAddXdyAlphabet</code> .....                         | 919, 991, 1067, 1068, 1074, 1147                          |
| .... <u>61</u> , 412, 662, 918, 1073                          | <code>\glsacounter</code> .....                           |
| <code>\GlsAddXdyAttribute</code> .....                        | 22, <u>22</u> ,                                           |
| 59,                                                           | 46, 58, 76, 102, 128, 392, 404,                           |
| <u>59</u> , 60, 61, 411, 412, 582, 661,                       | 410, 421, 436, 453, 582, 642,                             |
| 662, 835, 836, 916–918, 1071–1073                             | 654, 660, 671, 687, 704, 835,                             |
| <code>\GlsAddXdyCounters</code> .....                         | 896, 910, 916, 927, 943, 957,                             |
| .... <u>58</u> , 59, 60, 77, 410, 411,                        | 1051, 1064, 1071, 1081, 1098, 1112                        |
| 421, 582, 660–662, 671, 835,                                  | <code>\glsacurrententrylabel</code> .....                 |
| 916, 917, 927, 1071, 1072, 1082                               | 138, 216, 219, 501, 502, 753,                             |
| <code>\GlsAddXdyLocation</code> . <u>63</u> , 413, 414,       | 754, 1008, 1010, 1121, 1164–1166                          |
| 582, 664, 836, 919, 920, 1074, 1075                           | <code>\glsacurrentfieldvalue</code> ... 72, 73,           |
| <code>\GlsAddXdyStyle</code> <u>64</u> , 415, 665, 921, 1075  | <u>73</u> , 419, 420, 669, 670, 925, 1080                 |
|                                                               | <code>\glsacustomtext</code> ... 117, 119, 121,           |
|                                                               | 140–145, 161–169, 262, 263,                               |
|                                                               | 357, 359, 361–364, 374, 375,                              |
|                                                               | 444, 447–449, 461–464, 470–                               |
|                                                               | 474, 526, 531, 532, 535, 537,                             |



539, 555, 558, 560–563, 571,  
 695, 697–700, 713–715, 721–  
 726, 778, 784, 787–790, 792,  
 808, 811, 813, 815–817, 824,  
 825, 952–954, 966–969, 975–  
 980, 1032, 1033, 1107–1109,  
 1122–1124, 1131–1135, 1188, 1189  
`\GlsDeclareNoHyperList` . . . . .  
     . . . . . [22](#), [23](#), [392](#), [642](#), [896](#), [1051](#)  
`\glsdefaultshortaccess` . . . . .  
     . . . . . [380](#), [380](#), [576–579](#), [829–832](#)  
`\glsdefaulttype` . . . . . [19](#), [19](#), [20](#), [33](#),  
     [54](#), [65](#), [67](#), [74](#), [75](#), [99](#), [117](#), [204](#),  
     [217](#), [218](#), [390](#), [408](#), [415](#), [416](#),  
     [420](#), [434](#), [444](#), [450](#), [495](#), [501](#),  
     [502](#), [640](#), [658](#), [665](#), [666](#), [670](#),  
     [685](#), [695](#), [701](#), [747](#), [753](#), [894](#),  
     [903](#), [913](#), [921](#), [922](#), [926](#), [941](#),  
     [952](#), [1002](#), [1009](#), [1049](#), [1058](#),  
     [1068](#), [1076](#), [1077](#), [1080](#), [1081](#),  
     [1096](#), [1106](#), [1107](#), [1158](#), [1164](#), [1165](#)  
`\glsdefmain` . . . . . [19](#), [20](#), [77](#), [390](#),  
     [421](#), [640](#), [671](#), [894](#), [927](#), [1049](#), [1082](#)  
`\glsdefs@newdocentry` . . . . .  
     . . . . . [88](#), [89](#), [678](#), [934](#), [1089](#)  
`\GLSdesc` . . . . . [152](#), [466](#), [718](#), [971](#), [1127](#)  
`\Glsdesc` [151](#), [151](#), [466](#), [718](#), [971](#), [1127](#)  
`\glsdesc` [151](#), [151](#), [466](#), [718](#), [971](#), [1127](#)  
`\GLSdescplural` [153](#), [467](#), [718](#), [972](#), [1127](#)  
`\Glsdescplural` . . . . .  
     . . . . . [152](#), [152](#), [466](#), [718](#), [972](#), [1127](#)  
`\glsdescplural` . . . . .  
     . . . . . [152](#), [152](#), [466](#), [718](#), [972](#), [1127](#)  
`\glsdescriptionaccessdisplay` . . . . .  
     . . . . . [354](#), [366](#),  
     [370](#), [553](#), [556–558](#), [565](#), [567](#),  
     [568](#), [807](#), [810](#), [811](#), [818](#), [820](#), [821](#)  
`\glsdescriptionpluralaccessdisplay`  
     . . . . . [355](#), [366](#),  
     [553](#), [555](#), [556](#), [565](#), [807–809](#), [818](#)  
`\glsdescwidth` . . . . . [289](#), [289](#), [290](#), [291](#),  
     [294](#), [295](#), [297](#), [298](#), [300](#), [300](#),  
     [301–305](#), [312](#), [312](#), [313–315](#),  
     [317–319](#), [319](#), [320–325](#), [607–](#)  
     [610](#), [612–616](#), [620–627](#), [861](#),  
     [862](#), [864–870](#), [873–875](#), [877–881](#)  
`\glsdetoklabel` . . . . . [35](#), [68](#), [68](#),  
     [69–73](#), [82](#), [89](#), [94–98](#), [104](#), [109](#),  
     [110](#), [112–114](#), [127](#), [169–171](#),  
     [179–181](#), [200–202](#), [209](#), [212](#),  
     [219](#), [226–228](#), [232](#), [234](#), [238](#),  
     [240](#), [272–276](#), [331](#), [337–339](#),  
     [353–356](#), [381](#), [382](#), [416–419](#),  
     [424](#), [427](#), [431–433](#), [438](#), [440–](#)  
     [442](#), [452](#), [474](#), [475](#), [478](#), [479](#),  
     [492–494](#), [498](#), [502](#), [504](#), [505](#),  
     [508–510](#), [512](#), [513](#), [544–547](#),  
     [553–555](#), [580](#), [581](#), [599](#), [631](#),  
     [650](#), [667–669](#), [674](#), [678](#), [682–](#)  
     [684](#), [688](#), [691–693](#), [703](#), [726](#),  
     [730](#), [731](#), [744–746](#), [749](#), [750](#),  
     [754](#), [756](#), [757](#), [760–762](#), [764](#),  
     [765](#), [797–800](#), [806–808](#), [833](#),  
     [834](#), [852](#), [853](#), [884](#), [905](#), [922–](#)  
     [925](#), [929](#), [930](#), [934](#), [938–940](#),  
     [945](#), [948–950](#), [957](#), [980](#), [981](#),  
     [985](#), [986](#), [1000](#), [1001](#), [1005](#),  
     [1006](#), [1010](#), [1012](#), [1013](#), [1016](#),  
     [1017](#), [1019](#), [1020](#), [1038](#), [1039](#),  
     [1060](#), [1077–1080](#), [1084](#), [1089](#),  
     [1092–1095](#), [1099](#), [1103–1105](#),  
     [1112](#), [1135](#), [1136](#), [1140](#), [1141](#),  
     [1155–1157](#), [1161](#), [1165–1168](#),  
     [1171–1173](#), [1175](#), [1176](#), [1193–1195](#)  
`\glsdisablehyper` . . . . .  
     . . . . . [139](#), [461](#), [712](#), [966](#), [1122](#)  
`\Glsdisp` . . . . . [146](#), [146](#), [969](#), [1124](#)  
`\glsdisp` [145](#), [146](#), [464](#), [715](#), [969](#), [1124](#)  
`\glsdisplay` [122](#), [444](#), [450](#), [451](#), [695](#), [701](#)  
`\glsdisplayfirst` . . . . .  
     . . . . . [122](#), [444](#), [450](#), [695](#), [701](#)  
`\glsdisplaynumberlist` . . . . .  
     . . . . . [179](#), [202](#), [478](#), [493](#),  
     [730](#), [745](#), [985](#), [1001](#), [1140](#), [1156](#)  
`\glsdohyperlink` . . . . . [139](#), [139](#), [140](#),  
     [460](#), [461](#), [712](#), [713](#), [966](#), [1121](#), [1122](#)  
`\glsdohyperlinkhook` . . . . . [139](#), [139](#), [1121](#)  
`\glsdohypertarget` [137](#), [139](#), [140](#),  
     [460](#), [461](#), [712](#), [713](#), [966](#), [1120](#), [1122](#)  
`\glsdohypertargethook` . . . . .  
     . . . . . [138](#), [138](#), [1120](#), [1121](#)  
`\glsdoifexists` . . . . . [69](#), [70–72](#), [94–97](#),  
     [108](#), [109](#), [140–146](#), [161–169](#),  
     [175](#), [179](#), [181](#), [201](#), [202](#), [339–](#)  
     [343](#), [362–364](#), [369](#), [370](#), [417–](#)  
     [419](#), [431–433](#), [439](#), [440](#), [461–](#)  
     [464](#), [470–474](#), [476](#), [478](#), [479](#),  
     [493](#), [494](#), [562](#), [563](#), [567](#), [600–](#)  
     [602](#), [667–669](#), [682–684](#), [690](#),  
     [691](#), [713–716](#), [721–725](#), [728](#),

730, 731, 745, 746, 815, 816,  
820, 821, 853–856, 922–925,  
938–940, 947, 948, 966–969,  
975–980, 983–986, 1000, 1001,  
1077–1079, 1092–1094, 1102,  
1103, 1122–1125, 1131–1135,  
1138, 1140, 1141, 1156, 1157

`\glsdoifexistsordo` . 69, 125, 170,  
417, 452, 474, 667, 702, 726,  
923, 956, 980, 1078, 1111, 1136

`\glsdoifexistsorwarn` . . . 69, 234,  
240, 241, 417, 510, 513, 514,  
667, 762, 765, 766, 923, 1017,  
1020, 1021, 1077, 1173, 1176, 1177

`\glsdoifnoexists` . . . . 69, 86, 97,  
417, 426, 433, 667, 676, 684,  
923, 932, 940, 1077, 1087, 1095

`\glsdonohyperlink` . . . . . 127,  
139, 139, 453, 460, 461, 704,  
712, 957, 966, 1112, 1121, 1122

`\glsdoparenifnotempty` . . . . .  
. . . . . 270, 539, 791, 1037, 1193

`\glsdosanitizesort` . . . . .  
. . . . . 16, 388, 389, 638, 892, 1047

`\glsdoshowtarget` . . . . . 8, 137,  
139, 889, 966, 1043, 1120, 1121

`\glsenableentrycount` . . 111, 441,  
442, 692, 693, 949, 950, 1104, 1105

`\glsenablehyper` . . . . .  
. . . . . 140, 461, 712, 966, 1122

`\glsencapwrcontent` 127, 128, 957, 1112

`\glsentryaccess` . . . . .  
. . . . . 349, 354, 551, 553, 804, 806

`\glsentrycounter` . 128, 244, 247,  
453, 515, 517, 704, 767, 769,  
957, 1022, 1024, 1112, 1178, 1179

`\glsentrycounterfalse` . . . . .  
. . . . . 14, 388, 638, 892, 1046

`\glsentrycounterlabel` . . . . .  
. . . . . 238, 239, 512,  
513, 764, 765, 1020, 1175, 1176

`\GlsEntryCounterLabelPrefix` . . . . .  
. . . . . 236, 238, 511, 512,  
763, 764, 1018–1020, 1174, 1175

`\glsentrycountertrue` . . . . .  
. . . . . 14, 388, 638, 892, 1046

`\glsentrycurrcount` 112–114, 441–  
443, 692–694, 949–951, 1104, 1105

`\Glsentrydesc` . 152, 172, 173, 240,  
366, 370, 466, 475, 514, 565,  
567, 718, 727, 766, 818, 820,  
971, 981, 1021, 1127, 1137, 1177

`\glsentrydesc` . . . . . 138, 151,  
152, 172, 240, 366, 370, 445–  
447, 466, 475, 514, 556–558,  
565, 567, 696–698, 718, 727,  
765, 810, 811, 818, 820, 971,  
981, 1021, 1121, 1127, 1137, 1176

`\glsentrydescaccess` . . . . .  
. . . . . 350, 355, 551, 553, 804, 807

`\Glsentrydescplural` . . . . . 153,  
173, 173, 366, 467, 476, 565,  
718, 727, 818, 972, 982, 1127, 1137

`\glsentrydescplural` . . . . .  
. . . . . 152, 153, 173, 366,  
444, 445, 466, 467, 475, 555,  
556, 565, 695, 696, 718, 727,  
808, 809, 818, 972, 982, 1127, 1137

`\glsentrydescpluralaccess` . . . . .  
. . . . . 350, 355, 551, 554, 804, 807

`\Glsentryfirst` . . . . . 115,  
119, 148, 174, 174, 358, 365,  
443, 446, 448, 465, 476, 557,  
559, 564, 694, 697, 699, 716,  
728, 810, 813, 817, 951, 953,  
970, 982, 1106, 1108, 1125, 1138

`\glsentryfirst` . . . . .  
. . . . . 114, 119, 147, 148, 174,  
358, 359, 365, 443, 445, 446,  
448, 465, 476, 557, 559, 560,  
564, 694, 696, 697, 699, 716,  
728, 810–813, 817, 951, 953,  
970, 982, 1106–1108, 1125, 1138

`\glsentryfirstaccess` . . . . .  
. . . . . 350, 354, 551, 553, 804, 806

`\Glsentryfirstplural` . . . . .  
116, 118, 150, 175, 175, 357,  
365, 444, 445, 447, 465, 476,  
556, 559, 564, 695, 696, 698,  
717, 728, 809, 812, 817, 952,  
971, 982, 1106, 1107, 1126, 1138

`\glsentryfirstplural` 116, 118, 149,  
150, 174, 357, 358, 365, 443–  
445, 447, 465, 466, 476, 555,  
556, 558, 559, 564, 694–696,  
698, 717, 728, 808, 809, 811,  
812, 817, 818, 951, 952, 970,  
971, 982, 1106, 1107, 1126, 1138

`\glsentryfirstpluralaccess` . . . . .  
. . . . . 350, 354, 551, 553, 804, 806

|                                        |                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\glsentryfmt</code> . . . . .    | 76,<br>78, <u>117</u> , 421, 444, 671, 672,<br>695, 927, 952, 1081, 1082, 1107                                                                                                                                                                                                                               | 984, 1029–1036, 1106, 1109,<br>1133, 1134, 1136, 1140, 1184–1192                                                                                                                                                                                                                                                                                                                                                                  |
| <code>\Glsentryfull</code> . . . . .   | 178, <u>178</u> , 255,<br>263, 265, 376, 378, 478, 521,<br>527, 528, 572, 574, 730, 773,<br>779, 780, 825, 827, 984, 1027,<br>1034, 1035, 1140, 1183, 1189, 1191                                                                                                                                             | <code>\glsentrylongaccess</code> . . . . .<br>. . . . . <u>351</u> , 355, 551, 554, 804, 807                                                                                                                                                                                                                                                                                                                                      |
| <code>\glsentryfull</code> . . . . .   | <u>178</u> , 255,<br>263, 265, 376, 378, 478, 521,<br>527, 528, 572, 574, 729, 773,<br>779, 780, 825, 827, 984, 1027,<br>1034, 1035, 1140, 1183, 1189, 1191                                                                                                                                                  | <code>\Glsentrylongpl</code> . . . . . 116, 168,<br>178, <u>178</u> , 179, 257, 258, 262,<br>263, 362, 371, 374, 376, 444,<br>474, 478, 522, 523, 526, 527,<br>562, 568, 571, 572, 695, 725,<br>729, 730, 774, 775, 778, 779,<br>815, 821, 824–826, 952, 979,<br>984, 1029, 1033, 1034, 1106,<br>1135, 1140, 1184, 1185, 1188–1190                                                                                                |
| <code>\Glsentryfullpl</code> . . . . . | 179, <u>179</u> , 255,<br>263, 265, 376, 378, 478, 521,<br>527, 529, 572, 574, 730, 773,<br>779, 780, 826, 827, 984, 1028,<br>1034, 1035, 1140, 1183, 1190, 1191                                                                                                                                             | <code>\glsentrylongpl</code> . . . . . 116, 122,<br>167, 169, 178, <u>178</u> , 257, 258,<br>262–265, 362, 371, 372, 374,<br>376–378, 443, 450, 473, 474,<br>478, 522, 523, 526–529, 537,<br>543, 562, 568, 569, 571–574,<br>694, 701, 725, 726, 729, 730,<br>774, 775, 778–780, 790, 796,<br>815, 821, 822, 824–827, 951,<br>955, 979, 980, 984, 1029, 1030,<br>1033–1035, 1106, 1110, 1134,<br>1135, 1140, 1184–1186, 1188–1191 |
| <code>\glsentryfullpl</code> . . . . . | <u>178</u> , 255,<br>263, 265, 376, 378, 478, 521,<br>527, 529, 572, 574, 730, 773,<br>779, 780, 825, 827, 984, 1028,<br>1034, 1035, 1140, 1183, 1189, 1191                                                                                                                                                  | <code>\glsentrylongpluralaccess</code> . . . . .<br>. . . . . <u>351</u> , 355, 551, 554, 805, 807                                                                                                                                                                                                                                                                                                                                |
| <code>\glsentryitem</code> . . . . .   | <u>238</u> , 283, 285–289,<br>291, 292, 301, 302, 304, 312,<br>314, 316, 319, 321, 323, 327,<br>328, 330, 332, 513, 588–593,<br>595–597, 604, 606–609, 613–<br>615, 620–622, 624–626, 628–<br>631, 765, 841–850, 857, 859–<br>863, 867–869, 874–876, 878–<br>880, 882, 883, 885, 1020, 1176                  | <code>\Glsentryname</code> . . . . .<br>. . . . . 151, 171, <u>171</u> , 240, 366,<br>370, 466, 475, 513, 565, 567,<br>717, 726, 765, 818, 820, 971,<br>980, 981, 1021, 1127, 1136, 1176                                                                                                                                                                                                                                          |
| <code>\Glsentrylong</code> . . . . .   | 115, 166, 172, 178, <u>178</u> ,<br>257, 262, 263, 362, 364, 371,<br>375, 376, 443, 472, 475, 478,<br>522, 526, 527, 562, 563, 568,<br>571, 572, 694, 724, 726, 729,<br>730, 774, 778, 779, 815, 816,<br>821, 824, 825, 951, 978, 981,<br>984, 1029, 1033, 1034, 1106,<br>1134, 1137, 1140, 1184, 1185, 1189 | <code>\glsentryname</code> . . . . .<br>. . . . . 138, 150, 151, <u>170</u> , 215,<br>331, 366, 369, 466, 475, 564,<br>565, 567, 631, 717, 718, 726,<br>818, 820, 884, 971, 980, 981,<br>1008, 1121, 1126, 1127, 1136, 1164                                                                                                                                                                                                       |
| <code>\glsentrylong</code> . . . . .   | 114, 121, 165, 167,<br>172, 178, <u>178</u> , 257, 258, 260–<br>266, 361, 363, 364, 371–380,<br>443, 450, 472, 473, 475, 478,<br>522–530, 537, 561, 563, 568–<br>575, 694, 700, 724, 726, 729,<br>730, 774–782, 790, 815–817,<br>821–829, 951, 955, 978, 981,                                                | <code>\glsentrynumberlist</code> . . . . .<br>179, <u>179</u> , 201, 478, 493, 730,<br>745, 984, 985, 1000, 1140, 1156                                                                                                                                                                                                                                                                                                            |
|                                        | <code>\glsentryparent</code> . . . . .<br>. . . . . <u>175</u> , 477, 728, 983, 1138                                                                                                                                                                                                                         | <code>\Glsentryplural</code> . . . . . 118, 149,<br>173, <u>173</u> , 357, 365, 445, 447,<br>465, 476, 555, 558, 564, 695,<br>698, 717, 727, 809, 812, 817,<br>952, 970, 982, 1107, 1126, 1137                                                                                                                                                                                                                                    |
|                                        | <code>\glsentryplural</code> . . . . . 118, 148, 149,<br><u>173</u> , 357, 358, 365, 444, 445,                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

447, 465, 476, 555, 556, 558,  
 559, 564, 695, 696, 698, 717,  
 727, 808, 809, 811, 812, 817,  
 952, 970, 982, 1107, 1126, 1137  
 \glsentrypluralaccess . . . . .  
 . . . . 350, 354, 551, 553, 804, 806  
 \Glsentryprefix . . . . .  
 338, 338, 341, 599, 601, 852, 854  
 \glsentryprefix . . 337, 338, 339,  
 342, 599, 600, 602, 852, 853, 855  
 \Glsentryprefixfirst . . . . .  
 337, 338, 341, 599, 601, 852, 854  
 \glsentryprefixfirst 337, 338, 339,  
 342, 599, 600, 602, 852, 853, 855  
 \Glsentryprefixfirstplural . . . . .  
 338, 338, 342, 599, 602, 852, 855  
 \glsentryprefixfirstplural . . . . .  
 . . . . . 337, 338, 340,  
 343, 599, 600, 603, 852, 854, 856  
 \Glsentryprefixplural . . . . .  
 338, 338, 341, 599, 601, 852, 855  
 \glsentryprefixplural . . . . .  
 . . . . . 337, 338, 340,  
 343, 599, 600, 602, 852, 854, 856  
 \glsentryprevcount 112, 113, 441,  
 442, 692, 693, 949, 950, 1104, 1105  
 \Glsentryshort . . . . . 120, 162,  
 172, 177, 177, 258, 264, 265,  
 360, 362, 372, 377, 378, 449,  
 470, 475, 477, 523, 528, 561,  
 562, 569, 573, 574, 700, 722,  
 727, 729, 775, 780, 814, 815,  
 822, 826, 827, 954, 976, 981,  
 984, 1030, 1034, 1035, 1109,  
 1131, 1137, 1139, 1186, 1190, 1191  
 \glsentryshort . . . . .  
 . . . . 120, 122, 161, 163, 172,  
 177, 178, 255, 257–261, 263–  
 266, 360–363, 371–380, 449,  
 450, 470, 471, 475, 477, 478,  
 521–530, 560–563, 568–575,  
 700, 721, 722, 727, 729, 730,  
 773–782, 814–816, 821–829,  
 954, 955, 975, 976, 981, 984,  
 1028–1036, 1108, 1109, 1131,  
 1132, 1137, 1139, 1140, 1183–1192  
 \glsentryshortaccess . . . . .  
 . . . . 350, 355, 551, 554, 804, 807  
 \Glsentryshortpl . . . . . 120,  
 164, 178, 178, 258, 264, 265,  
 360, 372, 377, 378, 448, 471,  
 478, 523, 528, 529, 560, 569,  
 573, 574, 699, 723, 729, 775,  
 780, 813, 822, 826, 827, 953,  
 977, 984, 1030, 1035, 1108,  
 1133, 1139, 1140, 1186, 1190, 1191  
 \glsentryshortpl 120, 122, 163, 165,  
 177, 178, 179, 257, 258, 263–  
 265, 359, 360, 362, 371, 372,  
 376–378, 448, 450, 471, 472,  
 478, 522, 523, 527–529, 543,  
 560, 562, 568, 569, 572–574,  
 699, 701, 723, 729, 730, 774,  
 775, 779, 780, 796, 813, 815,  
 821, 822, 825–827, 953, 955,  
 977, 984, 1029, 1030, 1034,  
 1035, 1108, 1110, 1132, 1133,  
 1139, 1140, 1184–1186, 1189–1191  
 \glsentryshortpluralaccess . . . . .  
 . . . . 350, 355, 551, 554, 804, 807  
 \glsentrysort 175, 477, 728, 983, 1138  
 \Glsentrysymbol 154, 174, 174, 241,  
 367, 370, 467, 476, 514, 565,  
 568, 719, 727, 766, 818, 821,  
 972, 982, 1021, 1128, 1138, 1177  
 \glsentrysymbol . . 138, 153, 154,  
 174, 240, 367, 370, 445–447,  
 467, 476, 514, 532, 535, 539,  
 556–558, 565, 567, 696–698,  
 718, 719, 727, 766, 784, 788,  
 792, 810, 811, 818, 821, 972,  
 982, 1021, 1121, 1128, 1137, 1177  
 \glsentrysymbolaccess . . . . .  
 . . . . 350, 354, 551, 553, 804, 806  
 \Glsentrysymbolplural . . . . 155,  
 174, 174, 367, 467, 476, 565,  
 719, 728, 819, 973, 982, 1128, 1138  
 \glsentrysymbolplural . . . . .  
 . . . . . 154, 155, 174, 367,  
 444, 445, 467, 476, 532, 535,  
 539, 555, 556, 565, 695, 696,  
 719, 728, 784, 788, 792, 808,  
 809, 819, 972, 973, 982, 1128, 1138  
 \glsentrysymbolpluralaccess . . . . .  
 . . . . 350, 354, 551, 553, 804, 807  
 \Glsentrytext . . . . . 119, 147,  
 173, 173, 358, 364, 446, 448,  
 464, 476, 557, 559, 564, 697,  
 699, 716, 727, 810, 812, 817,  
 953, 969, 982, 1108, 1125, 1137

|                                                       |                                              |                                                                      |                                                     |
|-------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------|
| <code>\glstrytext</code> . . . . .                    | 118,                                         | <code>\glstryuserv</code>                                            | 159, 160, <u>177</u> , 369,                         |
|                                                       | 119, 146, 147, <u>173</u> , 180, 215,        |                                                                      | 469, 477, 566, 567, 721, 729,                       |
|                                                       | 358, 359, 364, 445, 446, 448,                |                                                                      | 820, 974, 975, 983, 984, 1130, 1139                 |
|                                                       | 464, 476, 479, 501, 556, 557,                | <code>\glstryuservaccess</code> . . . . .                            |                                                     |
|                                                       | 559, 560, 564, 696–699, 716,                 |                                                                      | . . . . <u>351</u> , 356, 552, 554, 805, 808        |
|                                                       | 727, 731, 752, 810, 812, 813,                | <code>\Glsstryuservi</code> . . . . .                                | 161,                                                |
|                                                       | 817, 953, 969, 982, 985, 1008,               |                                                                      | 177, <u>177</u> , 369, 469, 477, 567,               |
|                                                       | 1107, 1108, 1125, 1137, 1141, 1164           |                                                                      | 721, 729, 820, 975, 984, 1131, 1139                 |
| <code>\glstrytextaccess</code> . . . . .              |                                              | <code>\glstryuservi</code> 160, 161, <u>177</u> , 369,               |                                                     |
|                                                       | . . . . <u>349</u> , 354, 551, 553, 804, 806 |                                                                      | 469, 470, 477, 567, 721, 729,                       |
| <code>\glstrytitlecase</code> . . . . .               |                                              |                                                                      | 820, 975, 984, 1130, 1131, 1139                     |
|                                                       | . . . <u>175</u> , 476, 477, 728, 983, 1138  | <code>\glstryuserviaccess</code> . . . . .                           |                                                     |
| <code>\glstrytype</code> . . . . .                    | 99, <u>175</u> , 434,                        |                                                                      | . . . . <u>351</u> , 356, 552, 555, 805, 808        |
|                                                       | 477, 685, 728, 941, 983, 1096, 1138          | <code>\glsesclocationfalse</code> . . . . .                          | 12,                                                 |
| <code>\Glsstryuseri</code> . . . . .                  | 156,                                         |                                                                      | 200, 492, 744, 891, 999, 1045, 1155                 |
|                                                       | 176, <u>176</u> , 367, 468, 477, 566,        | <code>\glsesclocationstrue</code> . . . . .                          | 387, 636                                            |
|                                                       | 719, 729, 819, 973, 983, 1129, 1139          | <code>\glsexpandfields</code> . . . . .                              |                                                     |
| <code>\glstryuseri</code> 155, 156, <u>176</u> , 367, |                                              |                                                                      | . . . . . <u>86</u> , 426, 676, 932, 1087           |
| 467, 468, 477, 566, 719, 728,                         |                                              | <code>\glstfieldaccsupp</code> . . . . .                             |                                                     |
| 819, 973, 983, 1128, 1129, 1138                       |                                              |                                                                      | 352, <u>352</u> , 353, 552, 553, 805, 806           |
| <code>\glstryuseriaccess</code> . . . . .             |                                              | <code>\glstfielddef</code> . . <u>95</u> , 432, 682, 938, 1093       |                                                     |
|                                                       | . . . . <u>351</u> , 355, 551, 554, 805, 807 | <code>\glstfieldedef</code> . <u>94</u> , 431, 682, 938, 1093        |                                                     |
| <code>\Glsstryuserii</code> . . . . .                 | 157,                                         | <code>\glstfieldfetch</code> . . . . <u>95</u> , 175, 432,           |                                                     |
|                                                       | 176, <u>176</u> , 368, 468, 477, 566,        |                                                                      | 476, 683, 728, 939, 983, 1093, 1138                 |
|                                                       | 720, 729, 819, 973, 983, 1129, 1139          | <code>\glstfieldgdef</code> . <u>94</u> , 431, 682, 938, 1093        |                                                     |
| <code>\glstryuserii</code> . . . . .                  | 156, 157,                                    | <code>\glstfieldxdef</code> . <u>94</u> , 431, 682, 938, 1092        |                                                     |
|                                                       | <u>176</u> , 368, 468, 477, 566, 719,        | <code>\glstfindwidesttoplevelname</code> . . . . .                   |                                                     |
|                                                       | 720, 729, 819, 973, 983, 1129, 1139          |                                                                      | . . . . . <u>331</u> , 630, 884                     |
| <code>\glstryuseriiaccess</code> . . . . .            |                                              | <code>\GLSfirst</code> . . . <u>148</u> , 465, 716, 970, 1125        |                                                     |
|                                                       | . . . . <u>351</u> , 356, 551, 554, 805, 807 | <code>\Glsfirst</code> <u>147</u> , <u>147</u> , 465, 716, 970, 1125 |                                                     |
| <code>\Glsstryuseriii</code> . . . . .                | 158,                                         | <code>\glstfirst</code> . . . . .                                    |                                                     |
|                                                       | 176, <u>176</u> , 368, 468, 477, 566,        |                                                                      | 147, <u>147</u> , 465, 716, 969, 970, 1125          |
|                                                       | 720, 729, 819, 974, 983, 1129, 1139          | <code>\glstfirstaccessdisplay</code> . . . . .                       |                                                     |
| <code>\glstryuseriii</code> . . . . .                 | 157,                                         |                                                                      | <u>354</u> , 358, 359, 365, 553, 557,               |
|                                                       | 158, <u>176</u> , 368, 468, 477, 566,        |                                                                      | 559, 560, 564, 806, 810–813, 817                    |
|                                                       | 720, 729, 819, 974, 983, 1129, 1139          | <code>\GLSfirstplural</code> . . . . .                               |                                                     |
| <code>\glstryuseriiiaccess</code> . . . . .           |                                              |                                                                      | . . . . . <u>150</u> , 465, 717, 971, 1126          |
|                                                       | . . . . <u>351</u> , 356, 552, 554, 805, 807 | <code>\Glsfirstplural</code> . . . . .                               |                                                     |
| <code>\Glsstryuseriv</code> . . . . .                 | 159,                                         |                                                                      | . . . <u>149</u> , <u>149</u> , 465, 717, 970, 1126 |
|                                                       | 177, <u>177</u> , 368, 469, 477, 566,        | <code>\glstfirstplural</code> . . . . .                              |                                                     |
|                                                       | 720, 729, 819, 974, 983, 1130, 1139          |                                                                      | . . . <u>149</u> , <u>149</u> , 465, 717, 970, 1126 |
| <code>\glstryuseriv</code> . . . . .                  | 158, 159,                                    | <code>\glstfirstpluralaccessdisplay</code> . . . . .                 |                                                     |
|                                                       | <u>176</u> , 368, 469, 477, 566, 720,        |                                                                      | . . . . . <u>354</u> , 357, 365,                    |
|                                                       | 729, 819, 820, 974, 983, 1130, 1139          |                                                                      | 553, 555, 556, 558, 559, 564,                       |
| <code>\glstryuserivaccess</code> . . . . .            |                                              |                                                                      | 806, 808, 809, 811, 812, 817, 818                   |
|                                                       | . . . . <u>351</u> , 356, 552, 554, 805, 808 | <code>\glstfirstpluralacessdisplay</code> . . . . .                  |                                                     |
| <code>\Glsstryuserv</code> . . . . .                  | 160,                                         |                                                                      | . . . . . <u>358</u> , 559, 812                     |
|                                                       | 177, <u>177</u> , 369, 469, 477, 566,        | <code>\glstgenacfmt</code> . . . . .                                 | <u>119</u> ,                                        |
|                                                       | 721, 729, 820, 975, 984, 1130, 1139          |                                                                      | 257, 258, 264, <u>359</u> , 371, 377,               |
|                                                       |                                              |                                                                      | 448, 522, 523, 528, 560, 568,                       |

569, 573, 699, 774, 775, 779,  
813, 821, 822, 826, 953, 1028–  
1030, 1034, 1108, 1184, 1185, 1190

`\glsentryfmt` . . . . .  
117, 117, 257, 258, 263, 264,  
268, 357, 371, 375, 377, 447,  
522, 523, 526, 528, 530, 532,  
533, 535, 537, 539, 541, 543,  
558, 568, 569, 571, 573, 698,  
774, 775, 778, 779, 782, 784,  
786, 787, 790, 792, 794, 796,  
811, 821, 822, 825, 826, 952,  
1028–1030, 1033, 1034, 1037,  
1107, 1184, 1185, 1189, 1190, 1193

`\glsgetgrouplabel` . . . . .  
. . . . . 243, 515, 767, 1022, 1177

`\glsgetgrouptitle` . . . . .  
. . . . . 242, 282, 285–287, 306–311,  
327–331, 334, 515, 604, 606,  
607, 617–620, 628–630, 632,  
767, 857, 859, 860, 870–873,  
882–884, 886, 1021, 1041, 1177

`\gls glossarymark` . . . . .  
54, 54, 408, 658, 914, 1068, 1069

`\gls groupheading` . . . . .  
188, 232, 242, 282, 286, 287,  
289, 291, 292, 300, 302, 304,  
306–312, 314, 316, 319, 321,  
323, 326–332, 334, 483, 509,  
515, 586, 604, 606–609, 613–  
615, 617–622, 624–626, 628–  
632, 735, 761, 767, 839, 857,  
859–863, 867–876, 878–886,  
990, 1016, 1021, 1145, 1172, 1177

`\gls groupskip` . . . . . 187, 188,  
232, 242, 283, 286, 290, 291,  
293, 296, 297, 301–304, 313,  
314, 316, 320, 322, 324, 327,  
329, 330, 333, 483, 509, 515,  
585, 586, 605, 606, 608, 609,  
611, 614, 615, 620–622, 624–  
626, 628–630, 632, 735, 761,  
767, 838, 839, 858, 859, 861–  
865, 867–869, 874–876, 878–  
880, 882–884, 886, 989, 990,  
1016, 1021, 1145, 1172, 1177

`\gls hyperfirstfalse` . . . . . 264,  
377, 528, 573, 780, 826, 1034, 1190

`\gls hyperfirsttrue` . . . . .  
. . . . . 31, 398, 648, 902, 1057

`\gls hyperlink` . 180, 215, 479, 501,  
731, 752, 985, 1008, 1141, 1164

`\gls hypernavsep` . . . . .  
. . . . . 281, 281, 282, 604, 857, 1041

`\gls hypernumber` 53, 245, 247, 248,  
407, 516–518, 658, 768–770,  
913, 1023, 1024, 1068, 1178, 1180

`\gls ifhyper` . . . . . 124, 451, 702

`\gls ifhyperon` . . . . .  
126, 451, 452, 702, 703, 957, 1111

`\gls ifListOfAcronyms` . . . . . 21, 21,  
22, 391, 392, 641, 895, 896, 1050

`\gls ifmeasuring` . . . . .  
. . . . . 107, 107, 108, 946, 947, 1101

`\gls ifplural` . . . . . 117,  
120, 140–145, 161–169, 262,  
357, 359, 360, 362–364, 374,  
444, 447–449, 461–464, 470–  
474, 526, 532, 535, 537, 539,  
555, 558, 560–563, 571, 695,  
698–700, 713–715, 721–726,  
778, 784, 787, 790, 792, 808,  
811, 813–817, 824, 952–954,  
966–969, 975–980, 1033, 1107–  
1109, 1122–1124, 1131–1135, 1188

`\gls ifusedtranslatordict` . . . . .  
. . . . . 29, 397, 647, 901, 1056

`\gls ifusetranslator` . . . . .  
29–31, 49, 50, 335, 397, 398,  
405, 406, 581, 598, 646–648,  
655, 656, 834, 851, 901, 902,  
911, 912, 1055–1057, 1066, 1067

`\gls ignore` . . 182, 480, 731, 986, 1142

`\gls indexingsetting` . . . . .  
. . . . . 15, 18, 197, 200, 892, 894,  
998, 999, 1047–1049, 1153, 1155

`\gls indexonlyfirstfalse` . . . . .  
. . . . . 31, 398, 648, 902, 1057

`\gls inlinedescformat` . . . . .  
. . . . . 283, 284, 588, 605, 841, 858

`\gls inlinedopostchild` . . . . . 282,  
283, 588, 604, 605, 841, 857, 858

`\gls inlineemptydescformat` . . . . .  
283, 284, 588, 604, 605, 841, 858

`\gls inlineifhaschildren` . . . . . 283, 283

`\gls inlineformat` . . . . .  
283, 284, 588, 604, 605, 841, 858

`\gls inlineparentchildseparator`  
. . . . . 283, 284, 588, 605, 841, 858

|                                                     |                                                                     |
|-----------------------------------------------------|---------------------------------------------------------------------|
| <code>\glsinlinepostchild</code> .....              | 829–832, 1026, 1027, 1182, 1183                                     |
| ..... 283, <a href="#">284</a> , 588, 605, 841, 858 |                                                                     |
| <code>\glsinlineseparator</code> .....              | <code>\glsletentryfield</code> .....                                |
| ..... 283, <a href="#">284</a> , 588, 605, 841, 858 | ..... <a href="#">169</a> , 474, 726, 980, 1135                     |
| <code>\glsinlinesubdescformat</code> .....          | <code>\Glslink</code> .....                                         |
| 283, <a href="#">284</a> , 588, 605, 841, 858, 859  | <a href="#">125</a> , 126, 956, 1111                                |
| <code>\glsinlinesubnameformat</code> .....          | <code>\glslink</code> ..                                            |
| 283, <a href="#">284</a> , 588, 605, 841, 858, 859  | <a href="#">125</a> , 126, 255, 263–265,                            |
| <code>\glsinlinesubseparator</code> .....           | 269, 375–378, 451, 520, 521,                                        |
| ..... 283, <a href="#">284</a> , 588, 605, 841, 858 | 527, 528, 531, 572–574, 702,                                        |
| <code>\glsinsert</code> ...                         | 772, 773, 778–780, 784, 825,                                        |
| 118–121, 140–145,                                   | 827, 956, 1027, 1033–1035,                                          |
| 161–169, 262, 263, 357–364,                         | 1037, 1111, 1183, 1189–1191, 1193                                   |
| 374, 375, 444–449, 461–464,                         | <code>\glslinkcheckfirsthyperhook</code> ..                         |
| 470–474, 526, 532, 535, 537,                        | 126, <a href="#">126</a> , 452, 703, 956, 957, 1111                 |
| 539, 555–563, 571, 695–700,                         | <code>\glslinkpostsetkeys</code> .....                              |
| 713–715, 721–726, 778, 784,                         | <a href="#">126</a> ,                                               |
| 787–790, 792, 808–817, 824,                         | 127, 452, 453, 703, 957, 1111, 1112                                 |
| 825, 952–954, 967–969, 975–                         | <code>\glslinkvar</code> .....                                      |
| 980, 1033, 1107–1109, 1122–                         | 124, <a href="#">124</a> ,                                          |
| 1124, 1131–1135, 1188, 1189                         | 125, 451, 702, 955, 956, 1110, 1111                                 |
| <code>\glskeylisttok</code> .....                   | <code>\glslistdottedwidth</code> .....                              |
| 253, 254,                                           | ..... 288, <a href="#">288</a> , 589, 607, 842, 860                 |
| 380, 520, 531–534, 536, 538,                        | <code>\glslistexpandedname</code> ..                                |
| 540–544, 576–580, 772, 782,                         | 285, <a href="#">285</a> , 859                                      |
| 783, 785–791, 793–795, 797,                         | <code>\glslistgroupheaderfmt</code> ...                             |
| 829–833, 1026, 1027, 1182, 1183                     | 285,                                                                |
| <code>\glslabel</code> .....                        | <a href="#">285</a> , 286, 287, 606, 607, 859, 860                  |
| . 98, 117–121, 126, 127, 162–                       | <code>\glslistinit</code> .....                                     |
| 169, 257, 258, 262, 264, 357–                       | 285, 286, 859                                                       |
| 361, 371, 374, 375, 377, 434,                       | <code>\glslistnavigationitem</code> .....                           |
| 444–449, 452, 453, 470–474,                         | .....                                                               |
| 522, 523, 526, 528, 532, 535,                       | ..... 285, 286, 287, 606, 859, 860                                  |
| 537, 539, 555–561, 568, 569,                        | <code>\glslocalreset</code> ...                                     |
| 571, 573, 684, 695–700, 703,                        | 109, 110, 439,                                                      |
| 704, 722–726, 774, 775, 778,                        | 440, 690, 691, 947, 948, 1102, 1103                                 |
| 779, 784, 787, 788, 790, 792,                       | <code>\glslocalresetall</code> .....                                |
| 808–814, 821, 822, 824, 826,                        | .....                                                               |
| 940, 952–954, 956, 957, 976–                        | ..... <a href="#">110</a> , 440, 691, 948, 1103                     |
| 980, 1028–1030, 1033, 1034,                         | <code>\glslocalunset</code> ...                                     |
| 1095, 1107–1109, 1111, 1112,                        | 109, 111, 124,                                                      |
| 1131–1135, 1184, 1185, 1188–1190                    | 440, 441, 461–464, 691, 692,                                        |
| <code>\glslabelhypertarget</code> ....              | 713–715, 948, 949, 955, 1103, 1110                                  |
| <a href="#">138</a> , 1121                          | <code>\glslocalunsetall</code> .....                                |
| <code>\glslabelhypertargetdefs</code> .....         | .....                                                               |
| ..... 138, <a href="#">138</a> , 1121               | ..... <a href="#">111</a> , 441, 692, 949, 1103                     |
| <code>\glslabelhypertargetprefix</code> ....        | <code>\glslocationcstoencap</code> .                                |
| ..... 138, <a href="#">138</a> , 1121               | 53, 913, 1068                                                       |
| <code>\glslabelhypertargetvalue</code> ....         | <code>\glslongaccessdisplay</code> .                                |
| ..... 138, <a href="#">138</a> , 1121               | <a href="#">355</a> , 361–                                          |
| <code>\glslabeltok</code> .....                     | 364, 371–380, 554, 561–563,                                         |
| 254, <a href="#">254</a> , 520, 530–544, 576–       | 568–576, 807, 815–817, 821–829                                      |
| 579, 772, 782–792, 794–797,                         | <code>\glslongaccesskey</code> ....                                 |
|                                                     | 380, 580, 833                                                       |
|                                                     | <code>\glslongkey</code> .....                                      |
|                                                     | <a href="#">250</a> ,                                               |
|                                                     | 380, 518, 580, 770, 833, 1025, 1181                                 |
|                                                     | <code>\glslongpluralaccessdisplay</code> ...                        |
|                                                     | .....                                                               |
|                                                     | ..... <a href="#">355</a> , 362,                                    |
|                                                     | 371, 372, 374, 376–378, 554,                                        |
|                                                     | 562, 568, 569, 571–574, 576,                                        |
|                                                     | 807, 815, 821, 822, 824–827, 829                                    |
|                                                     | <code>\glslongpluralaccesskey</code> <a href="#">381</a> , 580, 833 |
|                                                     | <code>\glslongpluralkey</code> .....                                |
|                                                     | <a href="#">250</a> ,                                               |
|                                                     | 381, 518, 580, 770, 833, 1025, 1181                                 |
|                                                     | <code>\glslongtok</code> 254, <a href="#">254</a> , 255, 257, 258,  |
|                                                     | 263, 264, 371, 375, 377, 380,                                       |

520–523, 527, 528, 530–538,  
540–544, 568, 569, 572, 573,  
576–579, 772–775, 778, 780,  
782–791, 793–797, 821, 822,  
825, 826, 829–833, 1027–1030,  
1033, 1034, 1182–1185, 1189, 1190  
\glslowercase ..... 4, 886, 1041  
\glsLTpenaltycheck .....  
..... 299, 299, 612, 613, 866  
\glsmakefirsttuc ..... 42, 909, 1063  
\glsmcols ..... 306,  
306, 307–311, 616–619, 870–873  
\glsmeasuredepth .... 108, 947, 1102  
\glsmeasureheight .....  
.. 108, 138, 947, 966, 1102, 1120  
\glsmeasurewidth .....  
..... 108, 331–333, 947, 1102  
\glsmfuaddmap .. 5, 6, 94, 115, 116,  
126, 141, 143, 146–160, 162,  
164, 166, 168, 240, 241, 252,  
253, 338, 340, 341, 886, 887,  
937, 938, 951, 956, 967–975,  
977–979, 981–984, 1021, 1026,  
1041, 1092, 1106, 1111, 1122–  
1133, 1135, 1176, 1177, 1181, 1182  
\glsmfublocker .... 5, 6, 94, 142,  
144, 146, 148–162, 164, 166,  
168, 886, 887, 938, 967–979,  
1041, 1092, 1123–1131, 1133–1135  
\glsmfuexcl .....  
.. 5, 5, 6, 171, 173–179, 181,  
886, 887, 986, 1041, 1136–1141  
\glsmoveentry 104, 438, 688, 945, 1099  
\GLSname .... 151, 466, 717, 971, 1127  
\Glsname 150, 150, 466, 717, 971, 1126  
\glsname 150, 150, 466, 717, 971, 1126  
\glsnameaccessdisplay .....  
353, 366, 369, 370, 553, 564,  
565, 567, 568, 806, 818, 820, 821  
\glsnamefont ..... 240,  
245, 369, 370, 513, 514, 516,  
547, 567, 765, 766, 768, 800,  
820, 1020, 1021, 1023, 1176, 1178  
\glsnavhypergroupdotarget . 280, 280  
\glsnavhyperlink ..... 278, 281,  
282, 603, 604, 856, 857, 1040, 1041  
\glsnavhyperlinkname .....  
... 278, 279, 280, 603, 856, 1040  
\glsnavhypertarget ..... 280,  
285–287, 307–311, 328, 329,  
331, 334, 603, 606, 607, 617–  
620, 629, 630, 632, 856, 859,  
860, 870–873, 882–884, 886, 1040  
\glsnavigation .....  
.... 281, 285–287, 307–311,  
328–330, 334, 603, 606, 617–  
619, 629, 630, 632, 857, 859,  
860, 870–873, 882–884, 886, 1040  
\glsnavigationitem ..... 281, 281  
\glsnextpages ..... 12, 81,  
219, 237, 387, 423, 502, 512,  
636, 673, 754, 764, 891, 929,  
1010, 1019, 1045, 1084, 1165, 1175  
\glsnoexpandfields .....  
..... 86, 426, 676, 932, 1087  
\glsnogroupskipfalse .....  
..... 14, 387, 637, 891, 1046  
\glsnoidxdisplayloc 202, 204, 234,  
494, 495, 510, 746, 747, 762,  
1001, 1002, 1017, 1157, 1158, 1173  
\glsnoidxdisplayloclisthandler  
..... 202, 233, 494, 509,  
746, 761, 1001, 1017, 1156, 1173  
\glsnoidxloclist ..... 201, 232,  
233, 233, 493, 509, 745, 760,  
761, 1000, 1016, 1017, 1156, 1172  
\glsnoidxloclisthandler .....  
.. 233, 233, 509, 761, 1017, 1172  
\glsnoidxnumberlistloophandler  
..... 202, 203,  
494, 495, 746, 1001, 1002, 1157  
\glsnoidxprenumberlist .... 82,  
232, 233, 929, 1016, 1084, 1172  
\glsnoidxstripaccents 26, 26, 394,  
395, 644, 645, 898, 899, 1053, 1054  
\glsnomakeindexwarning .....  
..... 57, 190, 410,  
485, 660, 737, 916, 992, 1070, 1147  
\glsnonextpages ... 81, 219, 237,  
423, 502, 512, 673, 754, 764,  
929, 1010, 1019, 1084, 1165, 1175  
\glsnopostdotfalse .....  
..... 13, 387, 637, 891, 1046  
\glsnoxindywarning 52, 57, 59–61,  
63–66, 183, 184, 407, 410–412,  
414, 415, 480, 481, 657, 660–  
662, 664–666, 732, 733, 913,  
916–918, 920, 921, 987, 1068,  
1070–1073, 1075, 1076, 1142, 1143



|                                     |                                                                                                                                                    |                                      |                                                                                                                                                                                                            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\glsnumberformat</code>       | 53, 179, 407, 478, 479, 658, 730, 913, 985, 1068, 1140                                                                                             | <code>\Glspl</code>                  | 116, 143, 143, 268, 444, 463, 530, 694, 714, 782, 952, 968, 1037, 1106, 1123, 1192                                                                                                                         |
| <code>\glsnumberlistloop</code>     | 202, 203, 494, 746, 1001, 1002, 1157                                                                                                               | <code>\glspl</code>                  | 115, 142, 143, 268, 443, 462, 530, 694, 714, 782, 951, 967, 968, 1037, 1106, 1123, 1192                                                                                                                    |
| <code>\glsnumbersgroupname</code>   | 41, 48, 50, 243, 403, 405, 406, 515, 653, 655, 657, 767, 908, 911, 912, 1022, 1063, 1065, 1067, 1177                                               | <code>\Glsplural</code>              | 149, 465, 717, 970, 1126                                                                                                                                                                                   |
| <code>\glsnumlistlastsep</code>     | 180, 180, 202, 479, 494, 731, 745, 985, 1001, 1141, 1156                                                                                           | <code>\Glsplural</code>              | 148, 148, 465, 717, 970, 1126                                                                                                                                                                              |
| <code>\glsnumlistparser</code>      | 180, 199, 479, 492, 731, 743, 985, 999, 1141, 1154                                                                                                 | <code>\glsplural</code>              | 148, 148, 465, 717, 970, 1125, 1126                                                                                                                                                                        |
| <code>\glsnumlistsep</code>         | 180, 180, 202, 479, 494, 731, 745, 985, 1001, 1141, 1156                                                                                           | <code>\glspluralaccessdisplay</code> | 354, 357, 358, 365, 553, 555, 556, 558, 559, 564, 806, 808, 809, 811, 812, 817                                                                                                                             |
| <code>\glsopenbrace</code>          | 63, 182, 187, 188, 414, 480, 483, 585, 586, 664, 731, 735, 838, 839, 919, 920, 986, 989, 990, 1074, 1142, 1145                                     | <code>\glspluralsuffix</code>        | 48, 48, 101, 102, 254, 257–259, 371, 372, 376–379, 405, 436, 522, 523, 568, 569, 573, 575, 655, 686, 687, 774, 775, 822, 826–828, 911, 943, 1027, 1029, 1030, 1065, 1097, 1183, 1185, 1186                 |
| <code>\glsorder</code>              | 32, 33, 194–196, 198, 229, 399, 489–491, 506, 648, 649, 740–743, 758, 903, 995–998, 1013, 1058, 1151–1154, 1169                                    | <code>\glspostdescription</code>     | 13, 50, 284, 286, 287, 289, 301, 312, 319, 320, 327, 328, 330, 332, 333, 387, 407, 588–596, 605–608, 613, 620, 624, 628–632, 637, 657, 842, 844–850, 858–861, 867, 874, 878, 882–885, 891, 912, 1046, 1067 |
| <code>\glsorg@endtheglossary</code> | 6, 6, 383, 633, 887, 1042                                                                                                                          | <code>\glspostinline</code>          | 282, 284, 604, 605, 857, 858                                                                                                                                                                               |
| <code>\glsorg@PrintChanges</code>   | 6, 383, 633, 887, 1042                                                                                                                             | <code>\glspostlinkhook</code>        | 125, 126, 141–146, 162–169, 362–364, 452, 461–464, 470–474, 562–564, 703, 713–716, 722–726, 815–817, 956, 967–969, 975–980, 1111, 1122–1125, 1131–1135                                                     |
| <code>\glsorg@theglossary</code>    | 6, 6, 383, 633, 887, 1042                                                                                                                          | <code>\glsprefixsep</code>           | 339, 339, 340–343, 600–603, 853–856                                                                                                                                                                        |
| <code>\glspagelistwidth</code>      | 289, 291, 294, 295, 297, 298, 300, 302–305, 312, 314, 315, 317, 318, 319, 321–325, 607–610, 612–616, 620–627, 861, 862, 864–870, 874, 875, 877–881 | <code>\glsprestandardsort</code>     | 15, 16, 388, 389, 638, 892, 893, 1047                                                                                                                                                                      |
| <code>\glspar</code>                | 51, 407, 657, 912, 1067                                                                                                                            | <code>\glsquote</code>               | 44, 182, 480, 732, 986, 1142                                                                                                                                                                               |
| <code>\glspatchLTOutput</code>      | 295–298, 299, 611, 612, 864–866                                                                                                                    | <code>\glsrefentry</code>            | 238, 512, 764, 1020, 1175                                                                                                                                                                                  |
| <code>\glspatchtabularx</code>      | 108, 439, 690, 947, 1102                                                                                                                           | <code>\glsreset</code>               | 108, 110, 439, 440, 690, 691, 947, 948, 1102, 1103                                                                                                                                                         |
| <code>\glspenaltygroupskip</code>   | 296, 297, 299, 611, 612, 864–866                                                                                                                   | <code>\glsresetall</code>            | 110, 440, 691, 948, 1103                                                                                                                                                                                   |
| <code>\glspercentchar</code>        | 89, 183, 187, 188, 427, 428, 480, 483, 484, 678, 679, 732, 734, 736, 934, 935, 986, 989, 990, 1089, 1142, 1145, 1146                               | <code>\glsresetcurrcountfalse</code> | 111, 949, 1104                                                                                                                                                                                             |
| <code>\GlsPl</code>                 | 144, 463, 715, 968, 1124                                                                                                                           | <code>\glsresetentrycounter</code>   | 237, 512, 764, 1019, 1175                                                                                                                                                                                  |

`\glsresetentrylist` . . . . 187, 231,  
237, 237, 483, 508, 511, 512,  
585, 735, 759, 763, 764, 838,  
989, 1015, 1019, 1145, 1171, 1175  
`\glsresetsubentrycounter` . . . . .  
. . . . . 237, 239, 283,  
512, 513, 588, 605, 764, 765,  
841, 858, 1019, 1020, 1175, 1176  
`\glsrestoreLTOutput` . . . 299, 612, 866  
`\glssanitizeortfalse` . . . . .  
. . . . . 28, 396, 646, 900, 1055  
`\glssanitizeorttrue` . . . . .  
28, 396, 645, 646, 900, 1054, 1055  
`\glsavenumberlistfalse` . . . . .  
. . . . . 12, 387, 636, 890, 1045  
`\glsavewritesfalse` . . . . .  
. . . . . 38, 401, 651, 907, 1061  
`\glssee` . . . . 214, 500, 752, 1008, 1163  
`\glsseeformat` . 186, 200, 202, 215,  
482, 493, 494, 500, 585, 734,  
744, 746, 752, 838, 988, 1000,  
1001, 1008, 1144, 1155, 1157, 1163  
`\glsseeitem` . . . . .  
215, 215, 500, 501, 752, 1008, 1164  
`\glsseeitemformat` . . . . .  
. . 215, 215, 501, 752, 1008, 1164  
`\glsseelastsep` . . . . .  
. . 215, 215, 500, 752, 1008, 1164  
`\glsseelist` . . . . .  
. . 215, 215, 500, 752, 1008, 1163  
`\glsseesep` . . . . .  
. . 215, 215, 500, 752, 1008, 1164  
`\glsentencecase` . . . . .  
. . 4, 122, 126, 146, 170–172,  
886, 955, 956, 969, 980, 981,  
1041, 1109–1111, 1124, 1136, 1137  
`\glsSetAlphaCompositor` . . . . .  
. . . . . 52, 407, 657, 913, 1068  
`\glsSetCompositor` . . . . .  
. . . . . 52, 407, 657, 913, 1068  
`\glssetexpandfield` 24, 24, 27–29,  
393, 395, 396, 643, 645, 646,  
897, 899, 900, 1052, 1054, 1055  
`\glssetnoexpandfield` . . . . .  
. . . . . 24, 24, 25, 27, 28,  
393, 395, 396, 643, 645, 646,  
897, 899, 900, 1052, 1054, 1055  
`\GlsSetQuote` . . . . . 98,  
188, 190, 433, 484, 485, 488,  
684, 735, 737, 740, 940, 990,  
992, 994, 1095, 1146, 1147, 1150  
`\glsSetSuffixF` 52, 407, 657, 913, 1068  
`\glsSetSuffixFF` 53, 407, 657, 913, 1068  
`\glssettoctitle` . . . . 47, 50, 218,  
405, 406, 502, 655, 656, 754,  
910, 912, 1009, 1065, 1067, 1165  
`\glssetwidest` . . . . . 331, 631, 884  
`\GlsSetWriteIstHook` . . . . .  
. . . . . 190, 485, 737, 992, 1147  
`\GlsSetXdyCodePage` . . . . .  
. . . . 66, 415, 665, 666, 921, 1076  
`\GlsSetXdyFirstLetterAfterDigits`  
. . . 183, 480, 732, 986, 987, 1142  
`\GlsSetXdyLanguage` . . . . .  
. . . . . 65, 415, 665, 921, 1076  
`\GlsSetXdyLocationClassOrder` . .  
. . . . . 64, 414, 664, 920, 1075  
`\GlsSetXdyMinRangeLength` . . . . .  
. . . 184, 481, 732, 733, 987, 1143  
`\GlsSetXdyNumberGroupOrder` . . . .  
. . . . 183, 480, 481, 732, 987, 1142, 1143  
`\GlsSetXdyStyles` . . . . .  
. . . 65, 415, 665, 921, 1075, 1076  
`\glsshortaccessdisplay` . . . 172,  
355, 360–363, 371–380, 475,  
554, 560–563, 568–576, 727,  
807, 814–816, 821–829, 981, 1137  
`\glsshortaccesskey` . . . . 380, 580, 833  
`\glsshortaccsupp` . 353, 353, 552, 805  
`\glsshortkey` . . . . . 250,  
380, 518, 580, 770, 833, 1025, 1181  
`\glsshortplaccsupp` . . . 353, 552, 805  
`\glsshortpluralaccessdisplay` . .  
. . . . 355, 359, 360, 362, 371,  
372, 376–378, 554, 560, 562,  
568, 569, 572–574, 576, 807,  
813, 815, 821, 822, 825–827, 829  
`\glsshortpluralaccesskey` . . . . .  
. . . . . 380, 580, 833  
`\glsshortpluralkey` . . . . . 250,  
380, 518, 580, 770, 833, 1025, 1181  
`\glsshorttok` . . . . . 254,  
254, 380, 520, 530–538, 540–  
544, 576–580, 772, 782–797,  
829–833, 1026, 1027, 1182, 1183  
`\glsshowaccsupp` . . . . . 7, 9,  
384, 385, 634, 635, 888, 889, 1043  
`\glsshowtarget` . . . . . 8,  
8, 384, 385, 634, 888, 889, 1043

|                                                              |                                                                     |
|--------------------------------------------------------------|---------------------------------------------------------------------|
| <code>\glsshowtargetfont</code> .....                        | <code>\glstarget</code> .....                                       |
| ... 8, <u>8</u> , 384, 385, 634, 888, 1043                   | 107, 108, <u>239</u> , 284–289, 291–                                |
| <code>\glsshowtargetfonttext</code> 8, <u>8</u> , 888, 1043  | 293, 301, 302, 304, 312, 314,                                       |
| <code>\glsshowtargetinner</code> .. 8, <u>8</u> , 888, 1043  | 316, 319–321, 323, 327, 328,                                        |
| <code>\glsshowtargetouter</code> .....                       | 330, 332, 333, 513–515, 588–                                        |
| ..... 8, <u>8</u> , 385, 634, 888, 1043                      | 597, 605–609, 613–615, 620–                                         |
| <code>\glsshowtargetsymbol</code> .....                      | 622, 624–626, 628–632, 765–                                         |
| ..... 8, <u>8</u> , 385, 634, 888, 1043                      | 767, 841–850, 858–863, 867–                                         |
| <code>\glssortnumberfmt</code> <u>16</u> , 17, 18, 389,      | 869, 874–876, 878–880, 882–                                         |
| 390, 638, 639, 893, 894, 1047, 1048                          | 885, 946, 947, 1020, 1101, 1176                                     |
| <code>\glsspace</code> .....                                 | <code>\glstexorpdfstring</code> .....                               |
| 250, <u>250</u> , 519, 770, 783, 1025, 1181                  | .... 170, <u>170</u> , 171, 175, 208,                               |
| <code>\glssstepentry</code> . <u>238</u> , 239, 512, 513,    | 980, 983, 1005, 1136, 1138, 1160                                    |
| 764, 765, 1019, 1020, 1175, 1176                             | <code>\GLStext</code> .... <u>146</u> , 464, 716, 969, 1125         |
| <code>\glssstepentry</code> <u>238</u> , 239, 512, 513,      | <code>\Glstext</code> 147, <u>147</u> , 464, 716, 969, 1125         |
| 764, 765, 1019, 1020, 1175, 1176                             | <code>\glstext</code> <u>146</u> , <u>147</u> , 464, 716, 969, 1125 |
| <code>\glssubentrycounterfalse</code> .....                  | <code>\glstextaccessdisplay</code> . <u>354</u> , <u>358</u> ,      |
| ..... 15, 388, 638, 892, 1047                                | 359, 364, 553, 556, 557, 559,                                       |
| <code>\glssubentrycounterlabel</code> .. <u>238</u> ,        | 560, 564, 806, 810, 812, 813, 817                                   |
| 239, 512, 513, 764, 765, 1020, 1176                          | <code>\glstextformat</code> ... <u>117</u> , 125, 127,              |
| <code>\glssubentryitem</code> .....                          | 444, 452, 453, 695, 703, 704,                                       |
| .... <u>239</u> , 283, 286–289, 291,                         | 952, 956, 957, 1107, 1111, 1112                                     |
| 293, 301, 302, 304, 312, 314,                                | <code>\glstextup</code> .....                                       |
| 316, 320, 321, 323, 327, 328,                                | 48,                                                                 |
| 330, 332, 513, 588–597, 605–                                 | <u>249</u> , 378, 405, 518, 575, 655,                               |
| 609, 613–615, 620–622, 624–                                  | 770, 828, 911, 1025, 1065, 1181                                     |
| 626, 628–631, 765, 841–850,                                  | <code>\glstildechar</code> .....                                    |
| 858–863, 867–869, 874–876,                                   | . 59, <u>183</u> , 187, 188, 411, 480,                              |
| 878–880, 882, 883, 885, 1020, 1176                           | 483, 661, 732, 734, 735, 917,                                       |
| <code>\GLSsymbol</code> .. <u>154</u> , 467, 719, 972, 1128  | 986, 989, 990, 1072, 1142, 1145                                     |
| <code>\Glsymbol</code> 153, <u>153</u> , 467, 718, 972, 1128 | <code>\glstranslatefalse</code> .....                               |
| <code>\glssymbol</code> .....                                | 30, 31,                                                             |
| 153, <u>153</u> , 467, 718, 972, 1127, 1128                  | 397, 398, 647, 901, 902, 1056, 1057                                 |
| <code>\glssymbolaccessdisplay</code> .. <u>354</u> ,         | <code>\glstranslatetrue</code> .. 30, 31, 397,                      |
| 367, 370, 553, 556–558, 565,                                 | 398, 647, 648, 901, 902, 1056, 1057                                 |
| 567, 568, 806, 810, 811, 818, 821                            | <code>\glstreechildpredesc</code> .....                             |
| <code>\glssymbolnav</code> ... <u>282</u> , 604, 857, 1041   | <u>326</u> , 327, 328, 628, 629, 881–883                            |
| <code>\GLSsymbolplural</code> .....                          | <code>\glstreegroupheaderfmt</code> .....                           |
| ..... <u>155</u> , 467, 719, 973, 1128                       | ..... 306–311, <u>325</u> ,                                         |
| <code>\Glsymbolplural</code> .....                           | 327–331, 334, 617–620, 627–                                         |
| ... 154, <u>154</u> , 467, 719, 972, 1128                    | 630, 632, 870–873, 881–884, 886                                     |
| <code>\glssymbolplural</code> .....                          | <code>\glstreeindent</code> .....                                   |
| ... 154, <u>154</u> , 467, 719, 972, 1128                    | 328, <u>329</u> , 330, 332, 333, 592–                               |
| <code>\glssymbolpluralaccessdisplay</code> .                 | 594, 629–632, 846, 847, 883, 885                                    |
| ..... <u>354</u> , 367, 553,                                 | <code>\glstreeitem</code> .. 306, 307, 326, <u>326</u> ,            |
| 555, 556, 565, 806, 808, 809, 819                            | 616, 617, 627, 628, 870, 871, 881                                   |
| <code>\glssymbolsgroupname</code> .....                      | <code>\glstreenamebox</code> .....                                  |
| 40,                                                          | <u>331</u> , 332, 333, 631, 632, 884, 885                           |
| <u>47</u> , 50, 243, 402, 405, 406, 515,                     | <code>\glstreenamefmt</code> .. <u>325</u> , <u>325</u> , 327,      |
| 653, 655, 657, 767, 908, 911,                                | 328, 330–333, 627–632, 881–885                                      |
| 912, 1022, 1062, 1065, 1067, 1177                            | <code>\glstreenavigationfmt</code> .....                            |
|                                                              | ..... 307–311, <u>325</u> , 328–                                    |

330, 334, 617–619, 627, 629,  
 630, 632, 870–873, 881–884, 886  
 \glstreepredesc . . . . . 326,  
 327, 328, 330, 628–630, 881–883  
 \glstreesubitem . . . . .  
 306, 326, 326, 616, 628, 870, 881  
 \glstreesubsubitem . . . . .  
 306, 326, 326, 616, 628, 870, 881  
 \glstype . . . . . 126, 127, 141–145,  
 162–169, 362–364, 452, 461–  
 464, 470–474, 562, 563, 703,  
 713–715, 721–726, 815–817,  
 956, 957, 967–969, 975–980,  
 1111, 1112, 1122–1124, 1131–1135  
 \glsucmarkfalse 14, 387, 637, 891, 1046  
 \glsucmarktrue 14, 387, 637, 891, 1046  
 \glsunexpandedfieldvalue . . . . .  
 . . . . . 96, 285, 683, 859, 939, 1094  
 \glsunset . . . . . 109,  
 111–113, 124, 439–442, 461–  
 464, 690–693, 713–716, 947,  
 948, 950, 955, 1102–1105, 1110  
 \glsunsetall . 111, 441, 691, 948, 1103  
 \glsupacrpluralsuffix . . . . .  
 . 48, 259, 265, 405, 524, 529,  
 533, 536, 538, 541, 655, 776,  
 781, 786, 789, 791, 794, 911,  
 1030, 1031, 1036, 1065, 1186, 1191  
 \glsupercase . . . . .  
 . . . . . 4, 55, 93, 118–121, 147–  
 161, 163, 165, 167, 169, 255,  
 262, 263, 265, 342, 343, 358–  
 361, 363–369, 374–376, 378,  
 886, 914, 937, 952–954, 969–  
 978, 980, 1027, 1033–1035,  
 1041, 1069, 1092, 1107–1109,  
 1125–1135, 1183, 1188, 1189, 1191  
 \GlsUseAcrEntryDispStyle . . . 256,  
 256, 259–261, 264–266, 372–  
 374, 376, 378, 379, 521–527,  
 529, 569, 570, 573–575, 773–  
 777, 779, 781, 822–824, 826,  
 828, 1028, 1030–1032, 1034–  
 1036, 1184, 1186–1188, 1190–1192  
 \GlsUseAcrStyleDefs . . . . .  
 . . . . . 256, 256, 259–261,  
 264–266, 372–374, 376, 378–  
 380, 521, 522, 524–527, 529,  
 530, 569, 570, 573–575, 773–  
 779, 781, 822–824, 826, 828,  
 829, 1028, 1030–1032, 1034–  
 1036, 1184, 1186–1188, 1190–1192  
 \GlsUseri . . . 156, 468, 719, 973, 1129  
 \Glsuseri 155, 155, 468, 719, 973, 1128  
 \glsuseri 155, 155, 467, 719, 973, 1128  
 \glsuseriaccessdisplay . . . . .  
 . . . . . 355, 367, 554, 566, 807, 819  
 \GLSuserii . . 157, 468, 720, 973, 1129  
 \Glsuserii 156, 156, 468, 720, 973, 1129  
 \glsuserii 156, 156, 468, 719, 973, 1129  
 \glsuseriiaccessdisplay . . . . .  
 . . . . . 355, 368, 554, 566, 807, 819  
 \GLSuseriii . . 158, 468, 720, 974, 1129  
 \Glsuseriii . . . . .  
 . . . 157, 157, 468, 720, 974, 1129  
 \glsuseriii . . . . .  
 157, 157, 468, 720, 973, 974, 1129  
 \glsuseriiiaccessdisplay . . . . .  
 . . . . . 356, 368, 554, 566, 807, 819  
 \GLSuseriv . . 159, 469, 720, 974, 1130  
 \Glsuseriv 158, 158, 469, 720, 974, 1130  
 \glsuseriv . . . . .  
 158, 158, 468, 720, 974, 1129, 1130  
 \glsuserivaccessdisplay . . . . .  
 356, 368, 554, 566, 807, 819, 820  
 \GLSuseriv . . 160, 469, 721, 975, 1130  
 \Glsuseriv 159, 159, 469, 721, 974, 1130  
 \glsuseriv 159, 159, 469, 720, 974, 1130  
 \glsuserivaccessdisplay . . . . .  
 356, 369, 554, 566, 567, 808, 820  
 \GLSuserivi . . 161, 469, 721, 975, 1131  
 \Glsuserivi 160, 160, 469, 721, 975, 1130  
 \glsuserivi 160, 160, 469, 721, 975, 1130  
 \glsuseriviaccessdisplay . . . . .  
 . . . . . 356, 369, 554, 567, 808, 820  
 \GlsWarnAddProtectedPageFmt . . .  
 . . . . . 208, 208, 1004, 1160  
 \glswrallowprimitivemodsfalse .  
 . . . . . 209, 1005, 1161  
 \glswrallowprimitivemodstrue . .  
 . . . . . 498, 750  
 \glswrglossdisableanchorcmds . .  
 . . . . . 208, 213, 247,  
 1005, 1006, 1024, 1160, 1162, 1179  
 \glswrglossdisablelocationcmds  
 . . . . . 204,  
 207, 207, 1002, 1004, 1158, 1159  
 \glswrglosslocationtarget . . . . .  
 209, 247, 1005, 1024, 1160, 1179

|                                                               |                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------|
| <code>\glswrglosslocationtextfmt</code> . . . .               | <code>\hypertarget</code> . 138, 460, 712, 966, 1120          |
| <u>209</u> , 247, 1005, 1024, 1160, 1179                      | <code>\hypertt</code> . . . <u>247</u> , 518, 770, 1024, 1180 |
| <code>\glswrite</code> . . . . . 184–190, 198,                | <code>\hyperup</code> . . . <u>248</u> , 518, 770, 1024, 1180 |
| <u>200</u> , 205, 481–485, 491, 495,                          |                                                               |
| 496, 583–587, 733–737, 743,                                   |                                                               |
| 747, 748, 837–840, 987–991,                                   |                                                               |
| 998, 1003, 1143–1147, 1154, 1158                              |                                                               |
| <code>\glswritedefhook</code> . . . 89, <u>97</u> , 428,      |                                                               |
| 433, 678, 684, 934, 940, 1089, 1095                           |                                                               |
| <code>\glswriteentry</code> . . . . . 206,                    |                                                               |
| <u>206</u> , 496, 748, 1003, 1004, 1159                       |                                                               |
| <code>\glswritefiles</code> . . . . .                         |                                                               |
| . . . . . 38, 204, 401, 495, 651,                             |                                                               |
| 747, 906, 907, 1002, 1061, 1158                               |                                                               |
| <code>\glxsindyfalse</code> 33, 399, 649, 903, 1058           |                                                               |
| <code>\glxsindytrue</code> . . . . .                          |                                                               |
| . . . . . 34, 399, 649, 903, 904, 1058                        |                                                               |
|                                                               |                                                               |
| <b>H</b>                                                      |                                                               |
| <code>\H</code> . . . . . 26, 395, 644, 899, 1053             |                                                               |
| <code>\hangindent</code> . . . . . 310, 311,                  |                                                               |
| 326, 328, 330, 332–334, 592–                                  |                                                               |
| 594, 619, 620, 627, 629–632,                                  |                                                               |
| 845–847, 873, 881–883, 885, 886                               |                                                               |
| <code>\hbox</code> . . . . . 108, 288, 439,                   |                                                               |
| 589, 607, 690, 842, 860, 947, 1102                            |                                                               |
| <code>\hfill</code> . . . . . 288, 589, 607, 842, 860         |                                                               |
| <code>\hline</code> . . . . . 290–294, 301–303,               |                                                               |
| 305, 313–315, 317, 318, 320–                                  |                                                               |
| 325, 608–610, 614–616, 620–                                   |                                                               |
| 627, 861–863, 867–870, 874–881                                |                                                               |
| <code>\hsize</code> . . . . . 288, 289, 300,                  |                                                               |
| 312, 319, 607, 613, 620, 624,                                 |                                                               |
| 860, 861, 867, 873, 874, 877, 878                             |                                                               |
| <code>\hspace</code> . . . . . 326, 628, 881                  |                                                               |
| <code>\hss</code> . . . . . 288, 589, 607, 842, 860           |                                                               |
| <code>\ht</code> . . . . . 299, 612, 866                      |                                                               |
| <code>\hyperbf</code> . . . <u>247</u> , 518, 770, 1024, 1180 |                                                               |
| <code>\hyperdef</code> . . . . 46, 404, 654, 910, 1065        |                                                               |
| <code>\hyperemph</code> . <u>248</u> , 518, 770, 1024, 1180   |                                                               |
| <code>hyperfirst</code> (option) . . . . . <u>31</u>          |                                                               |
| <code>\hyperit</code> . . . <u>247</u> , 518, 770, 1024, 1180 |                                                               |
| <code>\hyperlink</code> . . . . . 123, 139, 247,              |                                                               |
| 451, 460, 517, 702, 712, 769,                                 |                                                               |
| 955, 966, 1024, 1110, 1121, 1179                              |                                                               |
| <code>\hypermd</code> . . . <u>247</u> , 518, 770, 1024, 1180 |                                                               |
| <code>\hyperm</code> . . . <u>247</u> , 518, 769, 1024, 1180  |                                                               |
| <code>\hypersc</code> . . . <u>248</u> , 518, 770, 1024, 1180 |                                                               |
| <code>\hypersf</code> . . . <u>247</u> , 518, 770, 1024, 1180 |                                                               |
| <code>\hypersl</code> . . . <u>247</u> , 518, 770, 1024, 1180 |                                                               |
|                                                               |                                                               |
|                                                               | <b>I</b>                                                      |
|                                                               | <code>\IeC</code> . . . . . 26, 394, 644, 898, 1053           |
|                                                               | <code>\if</code> . . . . . 129, 130,                          |
|                                                               | 212, 454, 499, 583, 705, 751,                                 |
|                                                               | 836, 958, 959, 1006, 1113, 1162                               |
|                                                               | <code>\if@endfor</code> . . . . . 603, 856, 1040              |
|                                                               | <code>\if@endpe</code> . . . . . 220, 1166                    |
|                                                               | <code>\if@filesw</code> . . . . . 34, 904, 1058               |
|                                                               | <code>\if@gl@debug</code> . . . . . 7, 23, 206,               |
|                                                               | 384, 392, 496, 633, 642, 748,                                 |
|                                                               | 887, 896, 1003, 1042, 1051, 1159                              |
|                                                               | <code>\if@gl@docloaded</code> . . . . .                       |
|                                                               | . . . . . 6, <u>6</u> , 19, 383, 390, 402,                    |
|                                                               | 633, 640, 652, 887, 894, 1042, 1049                           |
|                                                               | <code>\if@gl@isacronymlist</code> <u>22</u> , 126, 392,       |
|                                                               | 452, 641, 703, 896, 956, 1050, 1111                           |
|                                                               | <code>\if@openright</code> . 56, 409, 659, 915, 1070          |
|                                                               | <code>\if@org@KV@gl@link@local</code> . . . . .               |
|                                                               | . . . . . 123, 124, 955, 1110                                 |
|                                                               | <code>\ifbool</code> . 38, 39, 68, 391, 398, 401,             |
|                                                               | 417, 444–446, 640, 648, 651,                                  |
|                                                               | 667, 695–697, 907, 922, 1061, 1077                            |
|                                                               | <code>\ifboolexpr</code> . 49, 74, 405, 420, 515,             |
|                                                               | 655, 670, 767, 911, 926, 1066, 1081                           |
|                                                               | <code>\ifcase</code> . . . . . 7,                             |
|                                                               | 9, 10, 30, 37, 40, 41, 81, 235,                               |
|                                                               | 327, 384–386, 397, 402, 423,                                  |
|                                                               | 511, 592, 628, 633, 635, 636,                                 |
|                                                               | 647, 652, 673, 762, 845, 882,                                 |
|                                                               | 887, 889, 890, 901, 905, 907,                                 |
|                                                               | 909, 929, 1018, 1042, 1044,                                   |
|                                                               | 1056, 1060, 1062, 1063, 1084, 1174                            |
|                                                               | <code>\ifcsdef</code> . . . . . 30, 50, 56, 84, 85,           |
|                                                               | 92–97, 107, 206, 225, 226, 230,                               |
|                                                               | 256, 352, 397, 406, 409, 425,                                 |
|                                                               | 426, 430–433, 450, 496, 504,                                  |
|                                                               | 506, 507, 516, 521, 552, 647,                                 |
|                                                               | 656, 659, 675, 676, 680–684,                                  |
|                                                               | 701, 748, 756, 758, 759, 768,                                 |
|                                                               | 773, 805, 901, 912, 915, 931,                                 |
|                                                               | 932, 936–940, 946, 1003, 1011,                                |
|                                                               | 1013–1015, 1028, 1040, 1056,                                  |
|                                                               | 1067, 1070, 1086, 1091–1094,                                  |
|                                                               | 1101, 1159, 1167, 1169, 1170, 1184                            |
|                                                               | <code>\ifcsempy</code> . . . . . 71, 338, 339,                |
|                                                               | 418, 599, 668, 852, 853, 924, 1078                            |

|                                                     |                         |                                                     |
|-----------------------------------------------------|-------------------------|-----------------------------------------------------|
| <code>\ifcsequal</code> . . .                       | 71, 418, 668, 924, 1078 | 531, 535, 537, 539, 555, 558,                       |
| <code>\ifcsname</code> . . . . .                    | 96, 683, 939, 1094      | 560, 571, 642, 650, 659, 666,                       |
| <code>\ifcsstrequal</code> .                        | 97, 433, 684, 940, 1094 | 668, 669, 671, 672, 695, 698,                       |
| <code>\ifcsstring</code> . . .                      | 96, 432, 683, 939, 1094 | 699, 743, 744, 760, 761, 772,                       |
| <code>\ifcsundef</code> . . . . .                   |                         | 773, 778, 784, 787, 789, 792,                       |
| 10, 17, 33, 46, 49, 53–56, 68,                      |                         | 808, 811, 813, 824, 896, 905,                       |
| 76, 78, 80, 99, 102, 112, 123,                      |                         | 915, 922, 924, 925, 927, 928,                       |
| 128, 129, 139, 204, 216, 226,                       |                         | 952, 953, 997–999, 1015, 1016,                      |
| 234, 235, 239, 243–245, 248,                        |                         | 1027, 1028, 1032, 1037, 1051,                       |
| 255, 353–356, 386, 389, 399,                        |                         | 1059, 1069, 1077, 1079, 1080,                       |
| 404, 405, 407–409, 416, 417,                        |                         | 1082, 1107, 1108, 1153, 1154,                       |
| 420–422, 434, 436, 441, 451,                        |                         | 1171, 1172, 1182, 1183, 1188, 1193                  |
| 453, 460, 461, 489, 490, 495,                       |                         | <code>\ifdefequal</code> . . . . .                  |
| 501, 503, 504, 510, 513, 515,                       |                         | 34, 35, 70–73,                                      |
| 516, 518, 521, 553–555, 587,                        |                         | 84–86, 90, 100, 104, 232, 353,                      |
| 603, 635, 639, 649, 654, 656,                       |                         | 399, 400, 417–419, 425, 426,                        |
| 658, 659, 667, 671, 673, 685,                       |                         | 428, 435, 438, 509, 553, 649,                       |
| 687, 692, 702, 704, 712, 741,                       |                         | 650, 668, 669, 675, 676, 679,                       |
| 747, 753, 755, 756, 762, 765,                       |                         | 686, 689, 761, 806, 904, 923–                       |
| 767, 768, 770, 773, 806–808,                        |                         | 925, 931, 932, 935, 942, 945,                       |
| 841, 857, 890, 893, 903, 910,                       |                         | 1016, 1058, 1059, 1078–1080,                        |
| 911, 913–915, 922, 927, 928,                        |                         | 1086, 1087, 1090, 1096, 1099, 1172                  |
| 941, 943, 949, 955, 957, 958,                       |                         | <code>\ifdefstrequal</code> 96, 432, 683, 939, 1094 |
| 966, 1002, 1008, 1012, 1017,                        |                         | <code>\ifdefstring</code> . . . . .                 |
| 1018, 1020–1024, 1028, 1040,                        |                         | . . . 13, 49, 74, 194–196, 199,                     |
| 1044, 1048, 1058, 1065, 1066,                       |                         | 228, 229, 231, 233, 344, 387,                       |
| 1068–1070, 1077, 1081–1083,                         |                         | 405, 420, 489–491, 506–510,                         |
| 1096, 1098, 1104, 1110, 1112,                       |                         | 547, 637, 655, 670, 740–742,                        |
| 1113, 1121, 1122, 1158, 1164,                       |                         | 744, 757, 758, 760, 761, 800,                       |
| 1167, 1173, 1176–1178, 1180, 1183                   |                         | 891, 911, 926, 995–997, 999,                        |
| <code>\ifcsvoid</code> . . . . .                    | 72, 924, 1079           | 1013–1015, 1017, 1046, 1066,                        |
| <code>\ifdef</code> 5, 43, 72, 73, 82, 88, 89, 108, |                         | 1081, 1151–1153, 1155, 1169–1173                    |
| 123, 170, 201, 202, 208, 249,                       |                         | <code>\ifdefvoid</code> . . . 25, 26, 34, 48, 103,  |
| 285, 326, 339, 352, 419, 424,                       |                         | 195, 196, 232, 233, 394, 437,                       |
| 427, 439, 451, 474, 476, 493,                       |                         | 508, 509, 643, 644, 688, 760,                       |
| 494, 518, 552, 600, 627, 628,                       |                         | 761, 898, 903, 911, 944, 995,                       |
| 669, 674, 678, 690, 702, 726,                       |                         | 996, 1016, 1052, 1053, 1058,                        |
| 728, 745, 746, 770, 805, 853,                       |                         | 1066, 1099, 1151, 1152, 1171, 1172                  |
| 859, 881, 886, 909, 925, 930,                       |                         | <code>\ifdim</code> . . . . . 258, 299, 331, 523,   |
| 934, 947, 955, 980, 1000, 1001,                     |                         | 612, 631, 775, 866, 884, 1030, 1185                 |
| 1005, 1025, 1041, 1064, 1079,                       |                         | <code>\iffalse</code> . . . . . 103, 110, 437,      |
| 1080, 1084, 1088, 1089, 1102,                       |                         | 440, 688, 691, 944, 948, 1099, 1103                 |
| 1110, 1136, 1156, 1157, 1160, 1181                  |                         | <code>\IfFileExists</code> . . . 12, 29, 30, 196,   |
| <code>\ifdefempty</code> . . . . .                  |                         | 197, 220, 387, 397, 489, 490,                       |
| 22, 35, 56, 67, 71–73, 77, 78,                      |                         | 503, 637, 646, 647, 741, 742,                       |
| 117, 119, 197, 199, 231, 232,                       |                         | 754, 891, 901, 996–998, 1010,                       |
| 254, 256, 262, 270, 357, 359,                       |                         | 1045, 1055, 1056, 1152, 1153, 1166                  |
| 374, 392, 400, 409, 416, 418,                       |                         | <code>\ifglossaryexists</code> . . . . . 54,        |
| 419, 421, 444, 447, 448, 491,                       |                         | 65, 67, 70, 194–196, 408, 415–                      |
| 492, 508, 509, 520, 521, 526,                       |                         | 417, 488–490, 658, 665–667,                         |
|                                                     |                         | 740–742, 913, 921–923, 995–                         |

997, 1068, 1076–1078, 1150–1152  
 \ifgl@sanitize@description . . .  
     . . . . . 27, 395, 645, 899, 1054  
 \ifgl@sanitize@name . . . . .  
     . . . . . 27, 395, 645, 899, 1054  
 \ifgl@sanitize@symbol . . . . .  
     . . . . . 28, 395, 645, 900, 1054  
 \ifgl@xindy@glnumbers . . . . .  
     . . . . . 66, 416, 666, 921, 1076  
 \ifgl@acrdescription . . . . .  
     . . . . . 32, 542, 796, 903, 1057  
 \ifgl@acrdua . . . . . 32, 533, 538, 541–  
     543, 786, 791, 794, 796, 903, 1058  
 \ifgl@acrfootnote 32, 126, 452, 542,  
     543, 703, 796, 902, 956, 1057, 1111  
 \ifgl@acrronym . . . . .  
     20, 390, 391, 640, 895, 1049, 1050  
 \ifgl@acrshortcuts . . . . .  
     . . . . . 45, 268, 403, 530,  
     654, 782, 909, 1037, 1064, 1192  
 \ifgl@acrsmallcaps . . . . . 32,  
     533, 534, 536, 538, 541, 785–  
     787, 789, 791, 793, 794, 903, 1057  
 \ifgl@acrsmaller 32, 533, 534, 537,  
     538, 785–787, 789, 791, 903, 1057  
 \ifgl@automake . . . . .  
     . . . 36, 37, 43, 199, 400, 401,  
     492, 650, 651, 743, 905, 906,  
     909, 999, 1060, 1061, 1064, 1154  
 \ifgl@descsuppressed . . . . . 71,  
     283, 418, 604, 668, 858, 924, 1078  
 \ifgl@entrycounter . . . . .  
     . . . 14, 15, 45, 237–239, 388,  
     404, 512, 513, 637, 638, 654,  
     764, 765, 891, 892, 909, 1019,  
     1020, 1046, 1047, 1064, 1175, 1176  
 \ifgl@entryexists . . . 68, 69, 87,  
     88, 98, 100, 416, 417, 427, 433,  
     435, 667, 677, 678, 684, 686,  
     922, 923, 933, 934, 940, 942,  
     1077, 1078, 1087–1089, 1095, 1097  
 \ifgl@esclocations . . . . .  
     . . . 130, 207, 208, 497, 749,  
     959, 1004, 1005, 1114, 1159, 1160  
 \ifgl@fieldcseq 97, 433, 684, 940, 1094  
 \ifgl@fielddefeq . . . . .  
     . . . . . 96, 432, 683, 939, 1094  
 \ifgl@fielddeq . 96, 432, 683, 939, 1094  
 \ifgl@fieldvoid . . . . . 72, 924, 1079  
 \ifglshaschildren . 70, 283, 417,  
     588, 605, 667, 841, 858, 923, 1078  
 \ifglshasdesc . . . . . 71,  
     283, 418, 605, 668, 858, 924, 1078  
 \ifglshasfield 72, 419, 669, 924, 1079  
 \ifglshaslong 71, 114–116, 171, 257,  
     258, 262, 264, 371, 374, 377,  
     418, 443, 444, 475, 522, 523,  
     526, 528, 537, 568, 569, 571,  
     573, 668, 694, 695, 726, 774,  
     775, 778, 779, 790, 821, 822,  
     824, 826, 924, 951, 952, 981,  
     1028–1030, 1033, 1034, 1079,  
     1106, 1136, 1184, 1185, 1188, 1190  
 \ifglshasparent . . . . . 70,  
     221, 226, 232, 331, 418, 504,  
     508, 630, 668, 756, 760, 884,  
     924, 1012, 1016, 1078, 1167, 1171  
 \ifglshasprefix . . . . . 338,  
     339, 341, 342, 599–602, 852–855  
 \ifglshasprefixfirst . . . . . 338,  
     339, 341, 342, 599–602, 853–855  
 \ifglshasprefixfirstplural . . . . .  
     . . . . . 339, 340, 342,  
     343, 599, 600, 602, 603, 853–856  
 \ifglshasprefixplural . 338, 340,  
     341, 343, 599–602, 852, 854–856  
 \ifglshasshort . . . . . 71, 215,  
     418, 669, 924, 1008, 1079, 1164  
 \ifglshassymbol . . . . . 71, 327,  
     328, 330, 332, 333, 418, 532,  
     535, 539, 628–632, 668, 784,  
     787, 792, 882, 883, 885, 924, 1079  
 \ifglshyperfirst . . . . .  
     . . . . . 126, 452, 703, 956, 1111  
 \ifgl@indexonlyfirst . . . . .  
     . . . . . 207, 496, 748, 1004, 1159  
 \ifgl@nogroupskip . . . . . 286,  
     290, 291, 293, 296, 297, 301,  
     302, 304, 312, 314, 316, 320,  
     322, 324, 327, 329, 330, 333,  
     606, 608, 609, 611, 614, 615,  
     620–622, 624–626, 628–630,  
     632, 859, 861–865, 867–869,  
     874–876, 878–880, 882–884, 886  
 \ifgl@nonumberlist . . . . .  
     . . . . . 236, 511, 763, 1019, 1174  
 \ifgl@nopostdot 13, 387, 637, 891, 1046  
 \ifgl@numberline . . . . .  
     . . . . . 57, 410, 660, 915, 1070

|                                                                                                                                                                         |                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\ifglresetcurrcount</code> .....                                                                                                                                  | 437, 496, 501, 672, 685, 688,                                                                                                                                           |
| ..... <a href="#">111</a> , <a href="#">112</a> , <a href="#">949</a> , <a href="#">1104</a>                                                                            | <a href="#">748</a> , <a href="#">753</a> , <a href="#">928</a> , <a href="#">941</a> , <a href="#">944</a> , <a href="#">1003</a> ,                                    |
| <code>\ifglssanitizesort</code> .....                                                                                                                                   | <a href="#">1009</a> , <a href="#">1082</a> , <a href="#">1096</a> , <a href="#">1099</a> , <a href="#">1159</a> , <a href="#">1164</a>                                 |
| .. <a href="#">25</a> , <a href="#">28</a> , <a href="#">393</a> , <a href="#">396</a> , <a href="#">643</a> , <a href="#">645</a> ,                                    | <code>\ifin@</code> .....                                                                                                                                               |
| <a href="#">646</a> , <a href="#">897</a> , <a href="#">900</a> , <a href="#">1052</a> , <a href="#">1054</a> , <a href="#">1055</a>                                    | <a href="#">42</a> , <a href="#">403</a> , <a href="#">653</a> , <a href="#">909</a> , <a href="#">1063</a>                                                             |
| <code>\ifglssavenumberlist</code> <a href="#">84</a> , <a href="#">199</a> , <a href="#">216</a> ,                                                                      | <code>\ifinlistcs</code> ...                                                                                                                                            |
| <a href="#">425</a> , <a href="#">492</a> , <a href="#">501</a> , <a href="#">675</a> , <a href="#">743</a> , <a href="#">752</a> ,                                     | <a href="#">230</a> , <a href="#">234</a> , <a href="#">507</a> , <a href="#">510</a> ,                                                                                 |
| <a href="#">931</a> , <a href="#">998</a> , <a href="#">1008</a> , <a href="#">1085</a> , <a href="#">1154</a> , <a href="#">1164</a>                                   | <a href="#">759</a> , <a href="#">762</a> , <a href="#">1014</a> , <a href="#">1017</a> , <a href="#">1170</a> , <a href="#">1173</a>                                   |
| <code>\ifglssavewrites</code> ..                                                                                                                                        | <code>\ifinner</code> .....                                                                                                                                             |
| <a href="#">38</a> , <a href="#">194</a> , <a href="#">206</a> ,                                                                                                        | <a href="#">8</a> , <a href="#">384</a> , <a href="#">634</a> , <a href="#">888</a> , <a href="#">1043</a>                                                              |
| <a href="#">401</a> , <a href="#">488</a> , <a href="#">496</a> , <a href="#">651</a> , <a href="#">740</a> , <a href="#">748</a> ,                                     | <code>\ifKV@glslink@hyper</code> ...                                                                                                                                    |
| <a href="#">906</a> , <a href="#">995</a> , <a href="#">1003</a> , <a href="#">1061</a> , <a href="#">1150</a> , <a href="#">1159</a>                                   | <a href="#">126</a> – <a href="#">128</a> ,                                                                                                                             |
| <code>\ifglssubentrycounter</code> ...                                                                                                                                  | <a href="#">452</a> , <a href="#">453</a> , <a href="#">703</a> , <a href="#">704</a> , <a href="#">957</a> , <a href="#">1111</a> , <a href="#">1112</a>               |
| <a href="#">15</a> , <a href="#">45</a> ,                                                                                                                               | <code>\ifKV@glslink@local</code> .....                                                                                                                                  |
| <a href="#">237</a> – <a href="#">239</a> , <a href="#">388</a> , <a href="#">404</a> , <a href="#">512</a> , <a href="#">513</a> ,                                     | <a href="#">123</a> ,                                                                                                                                                   |
| <a href="#">638</a> , <a href="#">654</a> , <a href="#">764</a> , <a href="#">765</a> , <a href="#">892</a> , <a href="#">909</a> ,                                     | <a href="#">124</a> , <a href="#">461</a> – <a href="#">464</a> , <a href="#">713</a> – <a href="#">715</a> , <a href="#">955</a> , <a href="#">1110</a>                |
| <a href="#">1019</a> , <a href="#">1020</a> , <a href="#">1047</a> , <a href="#">1064</a> , <a href="#">1175</a> , <a href="#">1176</a>                                 | <code>\ifmeasuring@</code> <a href="#">106</a> , <a href="#">439</a> , <a href="#">690</a> , <a href="#">946</a> , <a href="#">1100</a>                                 |
| <code>\ifglstoc</code> ....                                                                                                                                             | <code>\ifmmode</code> .....                                                                                                                                             |
| <a href="#">57</a> , <a href="#">410</a> , <a href="#">660</a> , <a href="#">915</a> , <a href="#">1070</a>                                                             | <a href="#">8</a> , <a href="#">384</a> , <a href="#">634</a> , <a href="#">888</a> , <a href="#">1043</a>                                                              |
| <code>\ifglstranslate</code> ....                                                                                                                                       | <code>\ifnum</code> .                                                                                                                                                   |
| <a href="#">29</a> , <a href="#">48</a> , <a href="#">397</a> ,                                                                                                         | <a href="#">16</a> , <a href="#">112</a> , <a href="#">113</a> , <a href="#">197</a> , <a href="#">231</a> , <a href="#">299</a> ,                                      |
| <a href="#">405</a> , <a href="#">646</a> , <a href="#">655</a> , <a href="#">901</a> , <a href="#">911</a> , <a href="#">1055</a> , <a href="#">1065</a>               | <a href="#">328</a> , <a href="#">330</a> , <a href="#">332</a> , <a href="#">333</a> , <a href="#">389</a> , <a href="#">400</a> ,                                     |
| <code>\ifglsucmark</code> .....                                                                                                                                         | <a href="#">442</a> , <a href="#">491</a> , <a href="#">508</a> , <a href="#">592</a> – <a href="#">594</a> , <a href="#">612</a> ,                                     |
| .....                                                                                                                                                                   | <a href="#">629</a> – <a href="#">631</a> , <a href="#">638</a> , <a href="#">639</a> , <a href="#">651</a> , <a href="#">692</a> ,                                     |
| <a href="#">55</a> , <a href="#">408</a> , <a href="#">658</a> , <a href="#">659</a> , <a href="#">914</a> , <a href="#">1069</a>                                       | <a href="#">693</a> , <a href="#">742</a> , <a href="#">760</a> , <a href="#">846</a> , <a href="#">847</a> , <a href="#">866</a> ,                                     |
| <code>\ifglused</code> .....                                                                                                                                            | <a href="#">883</a> , <a href="#">885</a> , <a href="#">893</a> , <a href="#">949</a> , <a href="#">950</a> , <a href="#">997</a> ,                                     |
| ..                                                                                                                                                                      | <a href="#">1015</a> , <a href="#">1047</a> , <a href="#">1104</a> , <a href="#">1105</a> , <a href="#">1153</a> , <a href="#">1171</a>                                 |
| <a href="#">68</a> , <a href="#">114</a> , <a href="#">117</a> – <a href="#">119</a> , <a href="#">126</a> , <a href="#">182</a> ,                                      | <code>\ifstreempty</code> .....                                                                                                                                         |
| <a href="#">207</a> , <a href="#">339</a> – <a href="#">343</a> , <a href="#">357</a> – <a href="#">359</a> , <a href="#">417</a> ,                                     | <a href="#">9</a> ,                                                                                                                                                     |
| <a href="#">443</a> – <a href="#">448</a> , <a href="#">452</a> , <a href="#">480</a> , <a href="#">496</a> , <a href="#">532</a> ,                                     | <a href="#">81</a> , <a href="#">385</a> , <a href="#">588</a> , <a href="#">635</a> , <a href="#">841</a> , <a href="#">889</a> , <a href="#">1043</a>                 |
| <a href="#">535</a> , <a href="#">537</a> , <a href="#">539</a> , <a href="#">555</a> – <a href="#">560</a> , <a href="#">600</a> –                                     | <code>\ifstrequal</code> .....                                                                                                                                          |
| <a href="#">602</a> , <a href="#">667</a> , <a href="#">693</a> , <a href="#">695</a> – <a href="#">699</a> , <a href="#">703</a> ,                                     | <a href="#">515</a> , <a href="#">767</a>                                                                                                                               |
| <a href="#">731</a> , <a href="#">748</a> , <a href="#">784</a> , <a href="#">787</a> , <a href="#">790</a> , <a href="#">792</a> ,                                     | <code>\ifthenelse</code> .....                                                                                                                                          |
| <a href="#">808</a> – <a href="#">813</a> , <a href="#">853</a> – <a href="#">856</a> , <a href="#">922</a> , <a href="#">950</a> ,                                     | <a href="#">29</a> ,                                                                                                                                                    |
| <a href="#">952</a> , <a href="#">953</a> , <a href="#">956</a> , <a href="#">986</a> , <a href="#">1004</a> , <a href="#">1077</a> ,                                   | <a href="#">46</a> , <a href="#">56</a> , <a href="#">128</a> , <a href="#">198</a> , <a href="#">396</a> , <a href="#">404</a> , <a href="#">409</a> ,                 |
| <a href="#">1105</a> , <a href="#">1107</a> , <a href="#">1108</a> , <a href="#">1111</a> , <a href="#">1142</a> , <a href="#">1159</a>                                 | <a href="#">453</a> , <a href="#">491</a> , <a href="#">515</a> , <a href="#">543</a> , <a href="#">603</a> , <a href="#">646</a> ,                                     |
| <code>\ifglswrallowprimitivemods</code> ....                                                                                                                            | <a href="#">654</a> , <a href="#">659</a> , <a href="#">704</a> , <a href="#">743</a> , <a href="#">767</a> , <a href="#">796</a> ,                                     |
| ..                                                                                                                                                                      | <a href="#">856</a> , <a href="#">900</a> , <a href="#">910</a> , <a href="#">915</a> , <a href="#">957</a> , <a href="#">998</a> ,                                     |
| <a href="#">209</a> , <a href="#">211</a> , <a href="#">498</a> , <a href="#">750</a> , <a href="#">1005</a> , <a href="#">1161</a>                                     | <a href="#">1040</a> , <a href="#">1055</a> , <a href="#">1064</a> , <a href="#">1070</a> , <a href="#">1112</a> , <a href="#">1154</a>                                 |
| <code>\ifglxsindy</code> .....                                                                                                                                          | <code>\IfTrackedLanguage</code> .....                                                                                                                                   |
| <a href="#">15</a> ,                                                                                                                                                    | .....                                                                                                                                                                   |
| <a href="#">33</a> , <a href="#">51</a> , <a href="#">52</a> , <a href="#">58</a> – <a href="#">61</a> , <a href="#">63</a> – <a href="#">66</a> , <a href="#">77</a> , | <a href="#">190</a> , <a href="#">485</a> , <a href="#">737</a> , <a href="#">992</a> , <a href="#">1147</a>                                                            |
| <a href="#">104</a> , <a href="#">105</a> , <a href="#">131</a> , <a href="#">183</a> , <a href="#">184</a> , <a href="#">190</a> ,                                     | <code>\IfTrackedLanguageFileExists</code> ..                                                                                                                            |
| <a href="#">194</a> , <a href="#">195</a> , <a href="#">197</a> , <a href="#">212</a> , <a href="#">214</a> , <a href="#">220</a> ,                                     | .....                                                                                                                                                                   |
| <a href="#">399</a> , <a href="#">407</a> , <a href="#">410</a> – <a href="#">416</a> , <a href="#">421</a> , <a href="#">438</a> ,                                     | <a href="#">49</a> , <a href="#">335</a> , <a href="#">336</a> , <a href="#">406</a> ,                                                                                  |
| <a href="#">455</a> , <a href="#">480</a> , <a href="#">481</a> , <a href="#">485</a> , <a href="#">488</a> , <a href="#">489</a> ,                                     | <a href="#">581</a> , <a href="#">598</a> , <a href="#">656</a> , <a href="#">834</a> , <a href="#">851</a> , <a href="#">912</a> , <a href="#">1066</a>                |
| <a href="#">499</a> , <a href="#">500</a> , <a href="#">503</a> , <a href="#">582</a> , <a href="#">583</a> , <a href="#">649</a> ,                                     | <code>\iftrue</code> .....                                                                                                                                              |
| <a href="#">657</a> , <a href="#">660</a> – <a href="#">666</a> , <a href="#">671</a> , <a href="#">689</a> , <a href="#">706</a> ,                                     | <a href="#">103</a> , <a href="#">109</a> , <a href="#">437</a> ,                                                                                                       |
| <a href="#">732</a> , <a href="#">733</a> , <a href="#">737</a> , <a href="#">740</a> , <a href="#">741</a> , <a href="#">750</a> ,                                     | <a href="#">440</a> , <a href="#">688</a> , <a href="#">691</a> , <a href="#">944</a> , <a href="#">948</a> , <a href="#">1099</a> , <a href="#">1103</a>               |
| <a href="#">752</a> , <a href="#">755</a> , <a href="#">835</a> – <a href="#">837</a> , <a href="#">892</a> , <a href="#">903</a> ,                                     | <code>\ifundef</code> .....                                                                                                                                             |
| <a href="#">913</a> , <a href="#">916</a> – <a href="#">921</a> , <a href="#">927</a> , <a href="#">945</a> , <a href="#">959</a> ,                                     | <a href="#">14</a> , <a href="#">15</a> ,                                                                                                                               |
| <a href="#">986</a> , <a href="#">987</a> , <a href="#">992</a> , <a href="#">995</a> , <a href="#">996</a> , <a href="#">998</a> ,                                     | <a href="#">75</a> , <a href="#">87</a> , <a href="#">99</a> , <a href="#">184</a> , <a href="#">188</a> , <a href="#">198</a> , <a href="#">388</a> ,                  |
| <a href="#">1006</a> , <a href="#">1007</a> , <a href="#">1010</a> , <a href="#">1047</a> , <a href="#">1058</a> ,                                                      | <a href="#">420</a> , <a href="#">427</a> , <a href="#">434</a> , <a href="#">481</a> , <a href="#">484</a> , <a href="#">491</a> ,                                     |
| <a href="#">1067</a> , <a href="#">1068</a> , <a href="#">1070</a> – <a href="#">1076</a> , <a href="#">1082</a> ,                                                      | <a href="#">637</a> , <a href="#">638</a> , <a href="#">670</a> , <a href="#">677</a> , <a href="#">685</a> , <a href="#">733</a> ,                                     |
| <a href="#">1099</a> , <a href="#">1100</a> , <a href="#">1114</a> , <a href="#">1142</a> , <a href="#">1143</a> ,                                                      | <a href="#">736</a> , <a href="#">743</a> , <a href="#">891</a> , <a href="#">892</a> , <a href="#">926</a> , <a href="#">933</a> ,                                     |
| <a href="#">1147</a> , <a href="#">1151</a> – <a href="#">1153</a> , <a href="#">1162</a> , <a href="#">1163</a> , <a href="#">1166</a>                                 | <a href="#">941</a> , <a href="#">987</a> , <a href="#">990</a> , <a href="#">998</a> , <a href="#">1046</a> , <a href="#">1047</a> ,                                   |
| <code>\ifignoredglossary</code> .....                                                                                                                                   | <a href="#">1081</a> , <a href="#">1088</a> , <a href="#">1096</a> , <a href="#">1143</a> , <a href="#">1146</a> , <a href="#">1154</a>                                 |
| <a href="#">78</a> ,                                                                                                                                                    | <code>\ifvmode</code> ....                                                                                                                                              |
| <a href="#">100</a> , <a href="#">103</a> , <a href="#">206</a> , <a href="#">216</a> , <a href="#">422</a> , <a href="#">434</a> ,                                     | <a href="#">181</a> , <a href="#">479</a> , <a href="#">731</a> , <a href="#">986</a> , <a href="#">1141</a>                                                            |
|                                                                                                                                                                         | <code>\ifvoid</code> .....                                                                                                                                              |
|                                                                                                                                                                         | <a href="#">299</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                         |
|                                                                                                                                                                         | <code>\ifx</code> .....                                                                                                                                                 |
|                                                                                                                                                                         | <a href="#">14</a> , <a href="#">16</a> , <a href="#">18</a> , <a href="#">21</a> , <a href="#">35</a> ,                                                                |
|                                                                                                                                                                         | <a href="#">41</a> , <a href="#">42</a> , <a href="#">46</a> , <a href="#">58</a> , <a href="#">59</a> , <a href="#">61</a> , <a href="#">63</a> , <a href="#">66</a> , |
|                                                                                                                                                                         | <a href="#">67</a> , <a href="#">74</a> , <a href="#">100</a> – <a href="#">103</a> , <a href="#">105</a> – <a href="#">107</a> , <a href="#">128</a> ,                 |
|                                                                                                                                                                         | <a href="#">129</a> , <a href="#">132</a> – <a href="#">137</a> , <a href="#">172</a> , <a href="#">184</a> , <a href="#">187</a> ,                                     |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 189–193, 204, 208, 209, 211–215, 218, 243–246, 270, 272, 344, 353, 388–392, 403, 404, 410, 411, 413, 415, 416, 434–438, 453, 455–460, 475, 481, 483, 485–487, 495, 497–500, 502, 515–517, 531, 533, 534, 536, 538–540, 542, 544, 546, 552, 583–588, 592–594, 637–639, 641, 650, 653, 654, 660, 661, 663, 664, 666, 685–689, 704, 706–712, 726, 727, 733, 735, 737–739, 747, 749–752, 754, 767–769, 783, 785, 787, 789, 791–793, 795, 797, 800, 806, 837, 839–841, 845–847, 891–896, 905, 908–910, 916, 917, 919, 921, 922, 926, 941–946, 957, 958, 960–965, 981, 987, 990–992, 994, 1002, 1004–1010, 1022–1024, 1037, 1046–1048, 1050, 1059, 1063, 1065, 1071–1074, 1076, 1077, 1080, 1096–1098, 1100, 1101, 1112, 1113, 1115–1120, 1136, 1137, 1143, 1145, 1147–1150, 1158, 1160–1163, 1165, 1178, 1179, 1193 |                                                                                                                                                                                                                                                |
| <code>\immediate</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 35, 36, 87, 89, 114, 194, 205, 220, 400, 427, 428, 443, 488, 490, 496, 503, 650, 677, 678, 693, 694, 740, 742, 747, 748, 755, 905, 933, 934, 950, 951, 995–998, 1003, 1010, 1011, 1059, 1060, 1088, 1089, 1105, 1151–1153, 1158, 1166          |
| <code>\in@</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 42, 403, 653, 909, 1063                                                                                                                                                                                                                        |
| <code>index</code> (option) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">41</a>                                                                                                                                                                                                                             |
| <code>index</code> (style) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="#">326</a>                                                                                                                                                                                                                            |
| <code>indexgroup</code> (style) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="#">327</a>                                                                                                                                                                                                                            |
| <code>indexhypergroup</code> (style) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="#">327</a>                                                                                                                                                                                                                            |
| <code>\indexname</code> . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 41, 403, 653, 908, 1063                                                                                                                                                                                                                        |
| <code>indexonlyfirst</code> (option) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="#">31</a>                                                                                                                                                                                                                             |
| <code>\indexspace</code> <a href="#">285</a> , <a href="#">286</a> , <a href="#">306</a> , <a href="#">306</a> , <a href="#">307</a> – <a href="#">311</a> , <a href="#">325</a> , <a href="#">327</a> – <a href="#">331</a> , <a href="#">333</a> , <a href="#">334</a> , <a href="#">605</a> , <a href="#">606</a> , <a href="#">616</a> – <a href="#">620</a> , <a href="#">627</a> – <a href="#">630</a> , <a href="#">632</a> , <a href="#">859</a> , <a href="#">870</a> – <a href="#">873</a> , <a href="#">881</a> – <a href="#">884</a> , <a href="#">886</a>                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                |
| <code>inline</code> (style) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">282</a>                                                                                                                                                                                                                            |
| <code>\input</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 48, 117, 405, 444, 655, 695, 911, 952, 1065, 1107                                                                                                                                                                                              |
| <code>\inputencodingname</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 34, 399, 649, 903, 1058                                                                                                                                                                                                                        |
| <code>\InputIfFileExists</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 88, 427, 678, 934, 1088                                                                                                                                                                                                                        |
| <code>\int</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 44                                                                                                                                                                                                                                             |
| <code>\istfile</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <a href="#">204</a> , 495, 747                                                                                                                                                                                                                 |
| <code>\istfilename</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 51, <a href="#">51</a> , 184, 188, 195, 196, 198, 407, 481, 484, 489–491, 583, 586, 657, 733, 736, 741–743, 837, 839, 913, 987, 990, 996–998, 1067, 1143, 1146, 1152–1154                                                                      |
| <code>\item</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 285–288, 306, 307, 326–328, 588, 589, 591, 592, 606, 607, 616, 617, 628, 629, 841, 842, 845, 859–861, 870, 871, 881, 882                                                                                                                       |
| <b>J</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                |
| <code>\jobname</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 35, 51, 87–89, 184, 188, 194–197, 220, 400, 407, 427, 481, 484, 488–490, 503, 583, 586, 650, 657, 677, 678, 733, 736, 740–742, 754, 837, 839, 905, 913, 933, 934, 987, 990, 995–998, 1010, 1059, 1067, 1088, 1089, 1143, 1146, 1151–1153, 1166 |
| <b>K</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                |
| <code>kernelglossredefs</code> (option) . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="#">39</a>                                                                                                                                                                                                                             |
| <code>\key@ifundefined</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 91, 92, 429, 679, 680, 935, 936, 1090, 1091                                                                                                                                                                                                    |
| keys:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                |
| <code>access</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="#">345</a>                                                                                                                                                                                                                            |
| <code>counter</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="#">80</a>                                                                                                                                                                                                                             |
| <code>description</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="#">78</a>                                                                                                                                                                                                                             |
| <code>descriptionaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <a href="#">346</a>                                                                                                                                                                                                                            |
| <code>descriptionplural</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <a href="#">79</a>                                                                                                                                                                                                                             |
| <code>descriptionpluralaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <a href="#">346</a>                                                                                                                                                                                                                            |
| <code>first</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <a href="#">79</a>                                                                                                                                                                                                                             |
| <code>firstaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="#">345</a>                                                                                                                                                                                                                            |
| <code>firstplural</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="#">79</a>                                                                                                                                                                                                                             |
| <code>firstpluralaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <a href="#">345</a>                                                                                                                                                                                                                            |
| <code>long</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="#">83</a>                                                                                                                                                                                                                             |
| <code>longaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="#">346</a>                                                                                                                                                                                                                            |
| <code>longplural</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="#">83</a>                                                                                                                                                                                                                             |
| <code>longpluralaccess</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <a href="#">346</a>                                                                                                                                                                                                                            |
| <code>name</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="#">78</a>                                                                                                                                                                                                                             |
| <code>nonumberlist</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <a href="#">81</a>                                                                                                                                                                                                                             |
| <code>parent</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <a href="#">81</a>                                                                                                                                                                                                                             |

|                        |                                                                                                        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|--------------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| plural                 | 79                                                                                                     | \let   | 6, 7, 13, 16–18, 20, 26, 27, 29–31, 33, 35–42, 45, 46, 49, 50, 60, 61, 72–74, 84, 86, 97–103, 106–111, 113, 117, 123–125, 127, 128, 130, 138–146, 161–169, 172, 179, 180, 188, 190, 193, 195, 196, 198–203, 206–208, 211, 215, 217–219, 232–235, 237, 254, 266–268, 281, 285, 299, 306, 307, 326, 335, 337, 347, 348, 362–364, 383, 384, 387, 389–391, 394, 395, 397, 398, 400–405, 407, 411, 412, 419, 420, 425, 426, 433–437, 439–442, 444, 451–455, 460–464, 470–475, 478, 479, 484, 485, 488–494, 496–498, 500–502, 509, 510, 512, 514, 520, 530–542, 549, 562, 563, 576–581, 587, 598, 599, 603, 604, 612, 616, 617, 628, 633, 634, 637–640, 644–648, 650–657, 662, 669, 670, 675–677, 684–688, 690–693, 695, 702–706, 712–716, 721–727, 730, 731, 735, 737, 740–746, 748–750, 752–754, 761, 762, 764, 766, 772, 782, 783, 785–793, 795, 802, 803, 815–817, 829–834, 840, 851, 852, 856, 857, 859, 866, 870, 871, 881, 887, 888, 891–895, 898, 899, 901–912, 917, 918, 925, 926, 931–933, 940–944, 946–950, 952, 955–957, 959, 966–969, 975–981, 985, 990, 991, 995–1005, 1008–1010, 1016–1019, 1027, 1036, 1037, 1040–1042, 1046–1049, 1053–1067, 1072, 1073, 1080, 1086, 1087, 1095–1099, 1101–1107, 1110–1112, 1114, 1121–1125, 1131–1135, 1137, 1140, 1141, 1146, 1147, 1150–1157, 1159–1161, 1163–1166, 1172, 1173, 1175, 1182, 1192 |
| pluralaccess           | 345                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| see                    | 80                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| short                  | 83                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| shortaccess            | 346                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| shortplural            | 83                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| shortpluralaccess      | 346                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| sort                   | 79                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| symbol                 | 80                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| symbolaccess           | 345                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| symbolplural           | 80                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| symbolpluralaccess     | 345                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| text                   | 79                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| textaccess             | 345                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| type                   | 80                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user1                  | 82                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user1access            | 346                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user2                  | 82                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user2access            | 346                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user3                  | 82                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user3access            | 346                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user4                  | 83                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user4access            | 347                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user5                  | 83                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user5access            | 347                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user6                  | 83                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user6access            | 347                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \KV@glslink@hyperfalse | 123, 126, 139, 451, 452, 461, 702, 703, 712, 955–957, 966, 1110, 1111, 1122                            |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \KV@glslink@hypertrue  | 123, 140, 451, 461, 702, 712, 955, 966, 1110, 1122                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>L</b>               |                                                                                                        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \L                     | 27, 395, 644, 899, 1053                                                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \l                     | 5, 27, 44, 107, 221–224, 395, 644, 887, 899, 1041, 1053, 1101                                          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \label                 | 11, 106–108, 235, 238, 386, 511, 512, 636, 763, 764, 890, 946, 947, 1018, 1019, 1045, 1101, 1174, 1175 |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \languagename          | 33, 399, 649, 903, 1058                                                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| languages (option)     | 31                                                                                                     | \letcs | 33, 35, 70–73, 89, 91, 92, 95, 101, 102, 169–171, 201, 202, 226–228, 232, 240, 243, 331, 417–419, 427, 429, 432, 436, 474, 475, 489,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| \leaders               | 288, 589, 607, 842, 860                                                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \leavevmode            | 97, 127, 433, 452, 684, 703, 940, 957, 1095, 1112                                                      |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| \legacy                | 45                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 490, 493, 494, 504, 505, 508,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 509, 513, 515, 631, 650, 668,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 669, 678, 680, 683, 686, 687,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 726, 741, 742, 745, 746, 756,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 757, 760, 761, 765, 767, 884,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 903, 905, 923–925, 934, 936,                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 939, 942, 943, 980, 981, 1000,               |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1001, 1011–1013, 1016, 1020–                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1022, 1040, 1058, 1060, 1078–                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1080, 1089–1091, 1094, 1097,                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1098, 1135, 1136, 1156, 1157,                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1167, 1168, 1171, 1172, 1176, 1177           |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| list (style) . . . . .                       | <a href="#">285</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \listcsadd . . . . .                         | <a href="#">230, 507, 759, 1014, 1170</a>                                                                                                                                                                                                                                                                                                                                                                                                           |
| \listcseadd . . . . .                        | <a href="#">224</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \listcsgadd . . . . .                        | <a href="#">234, 510, 762, 1017, 1173</a>                                                                                                                                                                                                                                                                                                                                                                                                           |
| \listcsxadd . . . . .                        | <a href="#">225, 226, 504, 756, 1011, 1167</a>                                                                                                                                                                                                                                                                                                                                                                                                      |
| listdotted (style) . . . . .                 | <a href="#">288</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \listead . . . . .                           | <a href="#">229, 507, 759, 1014, 1170</a>                                                                                                                                                                                                                                                                                                                                                                                                           |
| listgroup (style) . . . . .                  | <a href="#">286</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| listhypergroup (style) . . . . .             | <a href="#">286</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \listxadd . . . . .                          | <a href="#">87, 677, 933, 1088</a>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \loadglsentries . . . . .                    | <a href="#">117, 117, 444, 695, 952, 1106, 1107</a>                                                                                                                                                                                                                                                                                                                                                                                                 |
| locales (option) . . . . .                   | <a href="#">31</a>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \long . . . . .                              | <a href="#">97, 247, 433, 518,</a><br><a href="#">684, 769, 940, 1024, 1095, 1180</a>                                                                                                                                                                                                                                                                                                                                                               |
| long (key) . . . . .                         | <a href="#">83</a>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| long (style) . . . . .                       | <a href="#">289</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long-booktabs (style) . . . . .              | <a href="#">295</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long-sc-short (acrstyle) . . . . .           | <a href="#">259</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long-sc-short-desc (acrstyle) . . . . .      | <a href="#">260, 372</a>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| long-short (acrstyle) . . . . .              | <a href="#">257, 371</a>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| long-short-desc (acrstyle) . . . . .         | <a href="#">260, 372</a>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| long-sm-short (acrstyle) . . . . .           | <a href="#">259</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long-sm-short-desc (acrstyle) . . . . .      | <a href="#">260, 373</a>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| long-sp-short (acrstyle) . . . . .           | <a href="#">257</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long-sp-short-desc (acrstyle) . . . . .      | <a href="#">260</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long3col (style) . . . . .                   | <a href="#">290</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long3col-booktabs (style) . . . . .          | <a href="#">296</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long3colborder (style) . . . . .             | <a href="#">291</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long3colheader (style) . . . . .             | <a href="#">292</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long3colheaderborder (style) . . . . .       | <a href="#">292</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long4col (style) . . . . .                   | <a href="#">292</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long4col-booktabs (style) . . . . .          | <a href="#">296</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long4colborder (style) . . . . .             | <a href="#">293</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long4colheader (style) . . . . .             | <a href="#">293</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| long4colheaderborder (style) . . . . .       | <a href="#">293</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longaccess (key) . . . . .                   | <a href="#">346</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longborder (style) . . . . .                 | <a href="#">290</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longheader (style) . . . . .                 | <a href="#">290</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longheaderborder (style) . . . . .           | <a href="#">290</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \longnewglossaryentry . . . . .              | <a href="#">97, 98, 433, 684, 940, 1095</a>                                                                                                                                                                                                                                                                                                                                                                                                         |
| longplural (key) . . . . .                   | <a href="#">83</a>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| longpluralaccess (key) . . . . .             | <a href="#">346</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \longprovideglossaryentry . . . . .          | <a href="#">98, 433, 684, 940, 1095</a>                                                                                                                                                                                                                                                                                                                                                                                                             |
| longragged (style) . . . . .                 | <a href="#">300</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged-booktabs (style) . . . . .        | <a href="#">297</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged3col (style) . . . . .             | <a href="#">302</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged3col-booktabs (style) . . . . .    | <a href="#">298</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged3colborder (style) . . . . .       | <a href="#">303</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged3colheader (style) . . . . .       | <a href="#">303</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longragged3colheaderborder (style) . . . . . | <a href="#">303</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longraggedborder (style) . . . . .           | <a href="#">301</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longraggedheader (style) . . . . .           | <a href="#">301</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| longraggedheaderborder (style) . . . . .     | <a href="#">302</a>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| \LT@end@open . . . . .                       | <a href="#">299, 612, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| \LT@err . . . . .                            | <a href="#">299, 612, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| \LT@foot . . . . .                           | <a href="#">299, 612, 613, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \LT@head . . . . .                           | <a href="#">299, 612, 613, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \LT@lastfoot . . . . .                       | <a href="#">299, 612, 613, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \LT@output . . . . .                         | <a href="#">299, 612, 866</a>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>M</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \makeatletter . . . . .                      | <a href="#">88, 220, 427, 503,</a><br><a href="#">678, 754, 934, 1010, 1088, 1166</a>                                                                                                                                                                                                                                                                                                                                                               |
| \makebox . . . . .                           | <a href="#">288,</a><br><a href="#">331–333, 589, 593, 594, 607,</a><br><a href="#">631, 632, 842, 847, 860, 884, 885</a>                                                                                                                                                                                                                                                                                                                           |
| \makefirststuc . . . . .                     | <a href="#">4, 886, 1041</a>                                                                                                                                                                                                                                                                                                                                                                                                                        |
| \makeglossaries . . . . .                    | <a href="#">9, 34–36, 40, 47, 81, 194,</a><br><a href="#">197, 199, 201, 203, 221, 385,</a><br><a href="#">399–402, 405, 423, 488, 491–</a><br><a href="#">493, 495, 503, 635, 649–652,</a><br><a href="#">655, 673, 740, 743–745, 747,</a><br><a href="#">755, 889, 904, 905, 907, 908,</a><br><a href="#">910, 929, 995, 998–1000, 1002,</a><br><a href="#">1011, 1044, 1058–1060, 1062,</a><br><a href="#">1065, 1084, 1151, 1153–1157, 1166</a> |
| \makeglossary . . . . .                      | <a href="#">39, 39, 40,</a><br><a href="#">401, 402, 651, 652, 907, 908, 1062</a>                                                                                                                                                                                                                                                                                                                                                                   |
| makeindex (option) . . . . .                 | <a href="#">33</a>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \makenoidxglossaries . . . . .               | <a href="#">9, 34, 35, 81, 199, 200,</a>                                                                                                                                                                                                                                                                                                                                                                                                            |

203, 385, 399, 400, 423, 492–  
 495, 635, 649, 650, 673, 743–  
 747, 889, 904, 929, 999–1002,  
 1044, 1058, 1059, 1084, 1154–1157  
 \MakeTextUppercase . . . . .  
 . . . . . 5, 383, 633, 887, 1041  
 \MakeUppercase . . . . .  
 556, 557, 563, 809–811, 816, 817  
 \marginpar . . . . . 8, 385, 634, 888, 1043  
 \markboth . . . . . 55, 408, 658, 914, 1069  
 \mbox . . . . . 181, 287, 310, 311, 332,  
 479, 589, 606, 619, 631, 731,  
 842, 860, 872, 873, 885, 986, 1141  
 mcolalmtree (style) . . . . . [310](#)  
 mcolalmtreegroup (style) . . . . . [310](#)  
 mcolalmtreehypergroup (style) . . . . . [310](#)  
 mcolalmtreespannav (style) . . . . . [311](#)  
 mcolindex (style) . . . . . [306](#)  
 mcolindexgroup (style) . . . . . [306](#)  
 mcolindexhypergroup (style) . . . . . [306](#)  
 mcolindexspannav (style) . . . . . [307](#)  
 mcoltree (style) . . . . . [307](#)  
 mcoltreegroup (style) . . . . . [308](#)  
 mcoltreehypergroup (style) . . . . . [308](#)  
 mcoltreename (style) . . . . . [308](#)  
 mcoltreenamegroup (style) . . . . . [309](#)  
 mcoltreenamehypergroup (style) . . . . . [309](#)  
 mcoltreename (style) . . . . . [309](#)  
 mcoltreespannav (style) . . . . . [308](#)  
 \memUthead . . . . . 55, 408, 658, 914, 1069  
 \MessageBreak . . . . . 23,  
 39, 75, 218, 335, 336, 344, 393,  
 401, 402, 420, 502, 546, 581,  
 598, 642, 651, 652, 670, 754,  
 800, 834, 835, 851, 897, 907,  
 926, 1009, 1051, 1062, 1081, 1165  
 mfirstuc (option) . . . . . [41](#)  
 \mfirstucMakeUppercase . . . . .  
 . . . . . 5, 383, 408, 431, 445–  
 449, 464–474, 521, 526–528,  
 535, 539, 559–561, 564–567,  
 571, 572, 574, 602, 603, 633,  
 658, 659, 681, 696–700, 716–  
 724, 726, 772, 773, 778–780,  
 788, 792, 812–814, 817–820,  
 824, 825, 827, 855, 856, 887, 1041  
 \MFUaddmap . . . . . 5, 886, 1041  
 \MFUblocker . . . . . 5, 886, 1041  
 \MFUexcl . . . . . 5, 886, 1041  
 \MFUsentencecase . . . . . 5, 5, 42,  
 170, 171, 175, 886, 887, 909,  
 980, 983, 1041, 1063, 1136, 1138  
 \midrule . . . . . 296, 297, 611, 864, 865  
 \month . . . . . 184,  
 188, 481, 484, 583, 586, 733,  
 736, 837, 839, 987, 990, 1143, 1146  
  
 N  
 \n . . . . . 189, 484, 586,  
 587, 736, 839, 840, 990, 991, 1146  
 name (key) . . . . . [78](#)  
 \NeedsTeXFormat . . . . .  
 . . . . . 4, 278, 282, 284, 288, 295,  
 300, 305, 311, 318, 325, 334–  
 336, 343, 382, 383, 546, 581,  
 582, 587, 598, 633, 799, 834,  
 835, 841, 851, 859, 886, 1040, 1041  
 \new@glossaryentry . . . . . 86,  
 87, 201, 426, 427, 493, 677,  
 745, 933, 1000, 1087, 1088, 1156  
 \new@ifnextchar . . . . .  
 . . . . . 75, 92, 93, 114–116, 140–  
 144, 146–168, 251–253, 339–  
 343, 420, 430, 431, 443, 461–  
 474, 518, 519, 600–602, 670,  
 681, 694, 713–725, 770, 771,  
 853–855, 926, 937, 951, 966–  
 979, 1025, 1026, 1081, 1091,  
 1092, 1106, 1122–1135, 1181, 1182  
 \newacronym 248, 249, [249](#), 254, 518,  
 520, 531, 533, 534, 536, 538,  
 540, 542, 544, 770, 772, 783,  
 785, 787, 789, 791, 793, 795,  
 797, 1024, 1025, 1027, 1180, 1182  
 \newacronymhook . . . . . 254, [254](#),  
 380, 520, 531, 533, 535, 536,  
 538, 541, 542, 544, 576, 772,  
 783, 785, 787, 789, 791, 794,  
 795, 797, 829, 1027, 1182, 1183  
 \newacronymstyle . . . . . [256](#),  
 257–262, 264–266, 521–527,  
 529, 773–779, 781, 1028–1032,  
 1034–1036, 1184–1188, 1190–1192  
 \newcommand . . . . . 4–6, 8–33, 35–37, 39–  
 43, 45–48, 50–61, 63–79, 81–  
 93, 96–98, 103–117, 119, 121–  
 126, 128, 130, 137–184, 190,  
 193–197, 199, 200, 203–209,  
 211–220, 225–230, 232–234,

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 236–245, 247–256, 258, 266,<br>268, 269, 271–285, 299, 306,<br>325, 326, 331, 337–343, 345,<br>349–353, 370, 380–382, 384–<br>394, 396–418, 420–433, 437–<br>444, 447, 448, 450–455, 460–<br>481, 485, 488–492, 494–501,<br>503–516, 518–523, 530–547,<br>551–553, 568, 576, 580, 581,<br>587, 599–606, 612, 616, 627,<br>628, 631, 634–644, 646–648,<br>650–655, 657–662, 664–668,<br>670–684, 688–695, 698–706,<br>712–732, 737, 740–744, 746–<br>775, 782–800, 804–806, 821,<br>829, 833, 834, 841, 852–859,<br>866, 870, 881, 884, 886–937,<br>939, 940, 944–953, 955–957,<br>959, 966–987, 992, 994–999,<br>1002–1028, 1030, 1036–1041,<br>1043–1065, 1067–1092, 1094,<br>1095, 1099–1112, 1114, 1120–<br>1143, 1147, 1150–1153, 1155,<br>1157–1178, 1180–1185, 1192–1195 | <code>\newif</code> . . . . . 6, 7, 22, 29,<br>33, 36, 111, 209, 383, 384, 392,<br>397, 399, 400, 498, 633, 641,<br>646, 649, 650, 750, 887, 896,<br>901, 903, 905, 949, 1005, 1042,<br>1050, 1055, 1058, 1060, 1104, 1161                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>\newcount</code> . . . . . 17, 84, 389,<br>425, 639, 675, 893, 931, 1048, 1086                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <code>\newignoredglossary</code> . . . . .<br>. . . . . 77, 421, 671, 927, 1082                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <code>\newcounter</code> . . . . . 14, 15,<br>388, 637, 638, 891, 892, 1046, 1047                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <code>\newlabel</code> . . . . . 138, 1121                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>\NewDocumentCommand</code> . . . . . 138, 1121                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <code>\newlength</code> 137, 288, 289, 300, 312,<br>319, 329, 460, 607, 613, 620,<br>624, 629, 712, 860, 861, 867,<br>873, 874, 877, 878, 883, 966, 1120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>\newenvironment</code> . . . . .<br>. . . . . 239, 513, 765, 1020, 1176                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <code>\newrobustcmd</code> . . . . 8, 9, 70–72, 86,<br>87, 93–96, 114–116, 125, 140–<br>168, 170, 171, 175, 181, 182,<br>214, 215, 242, 245, 249–253,<br>270, 331, 339–342, 353–356,<br>385, 417–419, 426, 427, 430,<br>431, 443, 451, 461–480, 500,<br>501, 518, 519, 553–555, 599–<br>602, 630, 634, 635, 667–669,<br>676, 677, 681, 694, 702, 713–<br>731, 752, 770, 771, 806–808,<br>852–855, 884, 889, 923, 924,<br>932, 933, 937–939, 951, 956,<br>966–981, 983, 986, 1008, 1021,<br>1023, 1025, 1026, 1037, 1043,<br>1078, 1079, 1087, 1088, 1091–<br>1094, 1105, 1106, 1111, 1122–<br>1136, 1138, 1141, 1142, 1163,<br>1164, 1177, 1178, 1181, 1182, 1193 |
| <code>\newglossary</code> . . . . . 19, 20, 40,<br>41, 75, 76, 77, 198, 390, 391,<br>402, 403, 420, 421, 491, 640,<br>641, 653, 670, 671, 743, 894,<br>895, 908, 926, 927, 998, 1049,<br>1050, 1062, 1063, 1081, 1082, 1154                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <code>\newterm</code> . . . . . 41, 403, 653, 908, 1063                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\newglossaryentry</code> . . . . . 9, 41,<br>83, 86, 86, 112, 254, 385, 403,<br>424, 426, 441, 520, 530, 532,<br>533, 535, 537, 539, 541, 543,<br>576–579, 635, 653, 674–677,<br>692, 772, 782, 784, 786, 788,<br>790, 792, 794, 796, 829–832,<br>889, 908, 930–933, 949, 1027,<br>1044, 1063, 1085, 1087, 1104, 1183                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <code>\newtoks</code> . . . . . 131, 194, 253, 254, 455,<br>488, 520, 706, 740, 772, 960,<br>995, 1026, 1027, 1115, 1150, 1182                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\newglossarystyle</code> 244, 282, 285–<br>298, 300–324, 326–331, 334,<br>516, 604, 606–632, 768, 857,<br>859–865, 867–884, 886, 1022, 1178                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <code>\newwrite</code> 35, 87, 184, 188, 194, 198,<br>400, 427, 481, 484, 488, 491,<br>650, 677, 733, 736, 740, 743,<br>905, 933, 987, 990, 995, 998,<br>1059, 1088, 1143, 1146, 1150, 1154                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\nfss@text</code> . . . . 8, 384, 634, 888, 1043                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\noalign</code> . . . . . 299, 612, 866                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\nobreak</code> . . . . . 287,<br>299, 589, 606, 613, 842, 860, 866                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\noexpand</code> . . . . . 21, 46, 58, 60, 88,<br>102–104, 107, 128–131, 137,<br>179, 190–193, 199, 208, 213,<br>216, 220, 227, 228, 247, 248,<br>254, 391, 404, 410, 411, 427,                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                                         |                                                                                                                                    |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 436, 437, 450, 451, 453–455,                                            |                                                                                                                                    |
| 460, 479, 485–490, 492, 497,                                            |                                                                                                                                    |
| 498, 501, 503, 505, 513, 514,                                           |                                                                                                                                    |
| 518, 520, 530, 532–537, 539–                                            |                                                                                                                                    |
| 541, 543, 547, 576–580, 582,                                            |                                                                                                                                    |
| 641, 655, 661, 678, 687, 688,                                           |                                                                                                                                    |
| 701, 704–706, 711, 712, 730,                                            |                                                                                                                                    |
| 737–743, 749, 750, 753, 755,                                            |                                                                                                                                    |
| 757, 765, 766, 770, 772, 782,                                           |                                                                                                                                    |
| 784–786, 788, 790, 792–794,                                             |                                                                                                                                    |
| 796, 797, 800, 829–833, 835,                                            |                                                                                                                                    |
| 895, 910, 916, 917, 934, 943,                                           |                                                                                                                                    |
| 944, 946, 957–960, 965, 985,                                            |                                                                                                                                    |
| 992–999, 1004, 1007, 1008,                                              |                                                                                                                                    |
| 1010–1013, 1024, 1027, 1050,                                            |                                                                                                                                    |
| 1065, 1071, 1072, 1088, 1098,                                           |                                                                                                                                    |
| 1099, 1101, 1112–1115, 1120,                                            |                                                                                                                                    |
| 1141, 1147–1154, 1160, 1162,                                            |                                                                                                                                    |
| 1164, 1166, 1168, 1179, 1180, 1183                                      |                                                                                                                                    |
| noglossaryindex (option) . . . . .                                      | <a href="#">41</a>                                                                                                                 |
| nogroupskip (option) . . . . .                                          | <a href="#">14</a>                                                                                                                 |
| \nohyperpage . . . . .                                                  | 245,                                                                                                                               |
| 517, 768, 769, 1023, 1178, 1179                                         |                                                                                                                                    |
| nohypertypes (option) . . . . .                                         | <a href="#">23</a>                                                                                                                 |
| \noindent . . . . .                                                     | 307–                                                                                                                               |
| 311, 329–331, 514, 617–619,                                             |                                                                                                                                    |
| 629, 630, 766, 871–873, 883, 884                                        |                                                                                                                                    |
| \noist . . .                                                            | 188, 190, 193, <a href="#">193</a> , 488,                                                                                          |
| 586, 587, 740, 839, 840, 990,                                           |                                                                                                                                    |
| 991, 994, 995, 1146, 1147, 1150                                         |                                                                                                                                    |
| nolangwarn (option) . . . . .                                           | <a href="#">23</a>                                                                                                                 |
| nolist (option) . . . . .                                               | <a href="#">13</a>                                                                                                                 |
| nolong (option) . . . . .                                               | <a href="#">12</a>                                                                                                                 |
| nomain (option) . . . . .                                               | <a href="#">20</a>                                                                                                                 |
| nonumberlist (key) . . . . .                                            | <a href="#">81</a>                                                                                                                 |
| nonumberlist (option) . . . . .                                         | <a href="#">12</a>                                                                                                                 |
| \nopostdesc <a href="#">41</a> , <a href="#">50</a> , 51, 97, 219, 403, |                                                                                                                                    |
| 406, 407, 433, 502, 588, 653,                                           |                                                                                                                                    |
| 657, 684, 754, 841, 908, 912,                                           |                                                                                                                                    |
| 940, 1010, 1063, 1067, 1095, 1165                                       |                                                                                                                                    |
| nopostdot (option) . . . . .                                            | <a href="#">13</a>                                                                                                                 |
| noredefwarn (option) . . . . .                                          | <a href="#">24</a>                                                                                                                 |
| \normalbaselineskip . . .                                               | <a href="#">299</a> , <a href="#">612</a> , <a href="#">866</a>                                                                    |
| nostyles (option) . . . . .                                             | <a href="#">13</a>                                                                                                                 |
| nosuper (option) . . . . .                                              | <a href="#">13</a>                                                                                                                 |
| notranslate (option) . . . . .                                          | <a href="#">30</a>                                                                                                                 |
| notree (option) . . . . .                                               | <a href="#">13</a>                                                                                                                 |
| nowarn (option) . . . . .                                               | <a href="#">23</a>                                                                                                                 |
| \ns@ACRfull .                                                           | <a href="#">252</a> , <a href="#">519</a> , <a href="#">771</a> , <a href="#">1026</a> , <a href="#">1181</a>                      |
| \ns@Acrfull .                                                           | <a href="#">252</a> , <a href="#">519</a> , <a href="#">770</a> , <a href="#">1026</a> , <a href="#">1181</a>                      |
| \ns@acrfull .                                                           | <a href="#">251</a> , <a href="#">518</a> , <a href="#">770</a> , <a href="#">1025</a> , <a href="#">1181</a>                      |
| \ns@ACRfullpl                                                           | <a href="#">253</a> , <a href="#">519</a> , <a href="#">771</a> , <a href="#">1026</a> , <a href="#">1182</a>                      |
| \ns@Acrfullpl                                                           | <a href="#">253</a> , <a href="#">519</a> , <a href="#">771</a> , <a href="#">1026</a> , <a href="#">1182</a>                      |
| \ns@acrfullpl                                                           | <a href="#">252</a> , <a href="#">519</a> , <a href="#">771</a> , <a href="#">1026</a> , <a href="#">1182</a>                      |
| \ns@ACRlong . .                                                         | <a href="#">166</a> , <a href="#">473</a> , <a href="#">724</a> , <a href="#">978</a> , <a href="#">1134</a>                       |
| \ns@Acrlong . .                                                         | <a href="#">166</a> , <a href="#">472</a> , <a href="#">724</a> , <a href="#">978</a> , <a href="#">1133</a>                       |
| \ns@acrlong . .                                                         | <a href="#">165</a> , <a href="#">472</a> , <a href="#">723</a> , <a href="#">977</a> , <a href="#">1133</a>                       |
| \ns@ACRlongpl                                                           | <a href="#">168</a> , <a href="#">474</a> , <a href="#">725</a> , <a href="#">979</a> , <a href="#">1135</a>                       |
| \ns@Acrlongpl                                                           | <a href="#">168</a> , <a href="#">473</a> , <a href="#">725</a> , <a href="#">979</a> , <a href="#">1135</a>                       |
| \ns@acrlongpl                                                           | <a href="#">167</a> , <a href="#">473</a> , <a href="#">725</a> , <a href="#">979</a> , <a href="#">1134</a>                       |
| \ns@ACRshort .                                                          | <a href="#">162</a> , <a href="#">470</a> , <a href="#">722</a> , <a href="#">976</a> , <a href="#">1131</a>                       |
| \ns@Acrshort .                                                          | <a href="#">162</a> , <a href="#">470</a> , <a href="#">722</a> , <a href="#">975</a> , <a href="#">1131</a>                       |
| \ns@acrshort .                                                          | <a href="#">161</a> , <a href="#">470</a> , <a href="#">721</a> , <a href="#">975</a> , <a href="#">1131</a>                       |
| \ns@ACRshortpl                                                          | <a href="#">164</a> , <a href="#">471</a> , <a href="#">723</a> , <a href="#">977</a> , <a href="#">1133</a>                       |
| \ns@Acrshortpl                                                          | <a href="#">164</a> , <a href="#">471</a> , <a href="#">723</a> , <a href="#">977</a> , <a href="#">1132</a>                       |
| \ns@acrshortpl                                                          | <a href="#">163</a> , <a href="#">471</a> , <a href="#">722</a> , <a href="#">976</a> , <a href="#">1132</a>                       |
| \ns@newglossary . . . . .                                               |                                                                                                                                    |
| . . . . .                                                               | <a href="#">75</a> , <a href="#">75</a> , <a href="#">420</a> , <a href="#">670</a> , <a href="#">926</a> , <a href="#">1081</a>   |
| \null . . . . .                                                         | 130–                                                                                                                               |
| 137, 190–193, 220, 454–460,                                             |                                                                                                                                    |
| 485–488, 503, 705–712, 737–                                             |                                                                                                                                    |
| 739, 755, 959–965, 992–994,                                             |                                                                                                                                    |
| 1010, 1114–1120, 1147–1150, 1166                                        |                                                                                                                                    |
| \number . . . . .                                                       | 16, 88, 101,                                                                                                                       |
| 107, 113, 114, 207, 211, 389,                                           |                                                                                                                                    |
| 427, 435, 442, 497, 498, 514,                                           |                                                                                                                                    |
| 547, 639, 678, 686, 693, 749,                                           |                                                                                                                                    |
| 750, 766, 800, 893, 934, 942,                                           |                                                                                                                                    |
| 946, 950, 1004, 1005, 1047,                                             |                                                                                                                                    |
| 1088, 1097, 1101, 1105, 1160, 1161                                      |                                                                                                                                    |
| numberedsection (option) . . . . .                                      | <a href="#">10</a>                                                                                                                 |
| \numberline . . .                                                       | <a href="#">57</a> , <a href="#">410</a> , <a href="#">660</a> , <a href="#">916</a> , <a href="#">1070</a>                        |
| numberline (option) . . . . .                                           | <a href="#">10</a>                                                                                                                 |
| numbers (option) . . . . .                                              | <a href="#">40</a>                                                                                                                 |
| \numexpr                                                                | <a href="#">113</a> , <a href="#">114</a> , <a href="#">442</a> , <a href="#">693</a> , <a href="#">950</a> , <a href="#">1105</a> |
| <b>O</b>                                                                |                                                                                                                                    |
| \O . . . . .                                                            | 27, 395, 644, 899, 1053                                                                                                            |
| \o . . . . .                                                            | 27, 395, 645, 899, 1053                                                                                                            |
| \OE . . . . .                                                           | 27, 395, 644, 899, 1053                                                                                                            |
| \oe . . . . .                                                           | 27, 395, 644, 899, 1053                                                                                                            |
| \oldacronym .                                                           | <a href="#">248</a> , <a href="#">518</a> , <a href="#">770</a> , <a href="#">1024</a> , <a href="#">1180</a>                      |
| \openout . . .                                                          | <a href="#">35</a> , <a href="#">87</a> , <a href="#">184</a> , <a href="#">188</a> , <a href="#">194</a> ,                        |
| 400, 427, 481, 484, 488, 583,                                           |                                                                                                                                    |
| 586, 650, 677, 733, 736, 740,                                           |                                                                                                                                    |
| 837, 839, 905, 933, 987, 990,                                           |                                                                                                                                    |
| 995, 1059, 1088, 1143, 1146, 1151                                       |                                                                                                                                    |
| options:                                                                |                                                                                                                                    |
| acronym . . . . .                                                       | <a href="#">20</a>                                                                                                                 |
| acronymlists . . . . .                                                  | <a href="#">22</a>                                                                                                                 |

|                   |                    |                           |                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|--------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| acronyms          | <a href="#">20</a> | shortcuts                 | <a href="#">32</a>                                                                                                                                                                                                                                                                                                                                     |
| automake          | <a href="#">37</a> | smallcaps                 | <a href="#">32</a>                                                                                                                                                                                                                                                                                                                                     |
| automakegloss     | <a href="#">38</a> | smaller                   | <a href="#">32</a>                                                                                                                                                                                                                                                                                                                                     |
| automakeglosslite | <a href="#">38</a> | sort                      | <a href="#">15</a>                                                                                                                                                                                                                                                                                                                                     |
| compatible-2.07   | <a href="#">38</a> | style                     | <a href="#">11</a>                                                                                                                                                                                                                                                                                                                                     |
| compatible-3.07   | <a href="#">38</a> | subentrycounter           | <a href="#">15</a>                                                                                                                                                                                                                                                                                                                                     |
| counter           | <a href="#">22</a> | symbols                   | <a href="#">40</a>                                                                                                                                                                                                                                                                                                                                     |
| counterwithin     | <a href="#">14</a> | toc                       | <a href="#">10</a>                                                                                                                                                                                                                                                                                                                                     |
| debug             | <a href="#">7</a>  | translate                 | <a href="#">30</a>                                                                                                                                                                                                                                                                                                                                     |
| description       | <a href="#">32</a> | ucmark                    | <a href="#">14</a>                                                                                                                                                                                                                                                                                                                                     |
| disablemakegloss  | <a href="#">34</a> | writeglslabelnames        | <a href="#">36</a>                                                                                                                                                                                                                                                                                                                                     |
| dua               | <a href="#">32</a> | writeglslabels            | <a href="#">36</a>                                                                                                                                                                                                                                                                                                                                     |
| entrycounter      | <a href="#">14</a> | xindy                     | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                     |
| esclocations      | <a href="#">12</a> | xindygloss                | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                     |
| footnote          | <a href="#">32</a> | xindynoglsnumbers         | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                     |
| hyperfirst        | <a href="#">31</a> | \OR                       | 543, 796                                                                                                                                                                                                                                                                                                                                               |
| index             | <a href="#">41</a> | \or                       | 7, 9–11, 30, 37, 40, 42,<br>235, 327, 384, 386, 398, 402,<br>511, 592, 628, 633–636, 647,<br>652, 762, 763, 845, 882, 888–<br>890, 902, 906–909, 1018, 1042–<br>1045, 1056, 1060, 1062, 1063, 1174                                                                                                                                                     |
| indexonlyfirst    | <a href="#">31</a> | order (option)            | <a href="#">33</a>                                                                                                                                                                                                                                                                                                                                     |
| kernelglossredefs | <a href="#">39</a> | \org@glossaryentrynumbers | .....<br>219, 237, 502, 512,<br>754, 764, 1010, 1019, 1165, 1175                                                                                                                                                                                                                                                                                       |
| languages         | <a href="#">31</a> | \org@glossarytitle        | ..... 218,<br>502, 753, 754, 1009, 1010, 1165                                                                                                                                                                                                                                                                                                          |
| locales           | <a href="#">31</a> | \org@glspostdescription   | .....<br>50, 407, 657, 912, 1067                                                                                                                                                                                                                                                                                                                       |
| makeindex         | <a href="#">33</a> | \org@ifKV@glslink@hyper   | .. 127,<br>128, 452, 453, 703, 704, 957, 1112                                                                                                                                                                                                                                                                                                          |
| mfirsttuc         | <a href="#">41</a> | \outputpenalty            | ..... 299, 612, 866                                                                                                                                                                                                                                                                                                                                    |
| noglossaryindex   | <a href="#">41</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nogroupskip       | <a href="#">14</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nohypertypes      | <a href="#">23</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nolangwarn        | <a href="#">23</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nolist            | <a href="#">13</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nolong            | <a href="#">12</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nomain            | <a href="#">20</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nonumberlist      | <a href="#">12</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nopostdot         | <a href="#">13</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| noredefwarn       | <a href="#">24</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nostyles          | <a href="#">13</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nosuper           | <a href="#">13</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| notranslate       | <a href="#">30</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| notree            | <a href="#">13</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| nowarn            | <a href="#">23</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| numberedsection   | <a href="#">10</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| numberline        | <a href="#">10</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| numbers           | <a href="#">40</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| order             | <a href="#">33</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| restoremakegloss  | <a href="#">35</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| sanitize          | <a href="#">29</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| sanitizesort      | <a href="#">28</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| savenuumberlist   | <a href="#">12</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| savewrites        | <a href="#">38</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| section           | <a href="#">10</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| seeautonumberlist | <a href="#">12</a> |                           |                                                                                                                                                                                                                                                                                                                                                        |
| seenoindex        | <a href="#">9</a>  |                           |                                                                                                                                                                                                                                                                                                                                                        |
|                   |                    | <b>P</b>                  |                                                                                                                                                                                                                                                                                                                                                        |
|                   |                    | \p@                       | ..... 285, 306, 325, 326,<br>606, 616, 627, 628, 859, 870, 881                                                                                                                                                                                                                                                                                         |
|                   |                    | \p@gls@hyp@opt            | .....<br>124, 125, 451, 702, 956, 1110, 1111                                                                                                                                                                                                                                                                                                           |
|                   |                    | \PackageError             | ..... 9, 18,<br>19, 27, 36, 47, 59, 65, 69, 70,<br>75, 80, 83, 84, 91–97, 99–101,<br>112, 123, 170, 193, 194, 198,<br>201, 203, 225, 228–230, 235,<br>236, 244, 249, 255, 256, 356,<br>382, 383, 385, 390, 401, 405,<br>411, 415, 417, 420, 422, 424,<br>425, 429–435, 441, 451, 474,<br>488, 491, 493–495, 506, 507,<br>510, 511, 515, 516, 521, 522, |

533, 534, 538, 541, 555, 588,  
635, 640, 651, 655, 661, 665,  
667, 670, 673–675, 680–686,  
692, 702, 726, 740, 743, 745–  
747, 758, 759, 762, 763, 767,  
768, 773, 774, 786, 787, 791,  
794, 808, 841, 889, 894, 899,  
905, 910, 917, 921, 923, 926,  
928, 930, 931, 936–942, 949,  
955, 980, 994, 995, 998, 1000,  
1002, 1013–1015, 1018, 1019,  
1022, 1023, 1025, 1028, 1044,  
1049, 1054, 1060, 1065, 1071,  
1076–1078, 1081, 1083, 1085,  
1086, 1091–1094, 1096, 1097,  
1104, 1110, 1136, 1150, 1151,  
1154, 1156, 1157, 1169, 1170,  
1173, 1174, 1178, 1180, 1183, 1184  
\PackageInfo 7, 34, 35, 194, 206, 384,  
400, 488, 496, 633, 634, 649,  
650, 740, 748, 888, 904, 995,  
1003, 1042, 1043, 1059, 1151, 1159  
\PackageWarning . . . . . 7, 23,  
42, 45, 384, 392, 633, 634, 642,  
887, 888, 896, 1042, 1043, 1051  
\PackageWarningNoLine 7, 23, 335,  
336, 384, 392, 393, 581, 598,  
633, 634, 642, 834, 851, 887,  
888, 896, 897, 1042, 1043, 1051  
\pagegoal . . . . . 299, 612, 866  
\pagelistname . . . . .  
. . . . . 47, 50, 292–294, 296, 297,  
303, 305, 315–318, 322–325,  
405, 406, 609–611, 615, 616,  
622–624, 626, 627, 655, 656,  
862, 863, 865, 868–870, 875–  
877, 879–881, 910, 912, 1065, 1067  
\par . . . . . 51, 285, 287, 306,  
308–311, 325, 326, 328–334,  
407, 514, 515, 589, 592–594,  
606, 616–620, 627–632, 657,  
766, 767, 842, 846, 847, 859,  
860, 870–873, 881–886, 912, 1067  
parent (key) . . . . . 81  
\parindent . . . . . 306–311,  
326, 328–330, 332–334, 592–  
594, 616–620, 628–632, 845–  
847, 870–873, 881–883, 885, 886  
\parskip . . . . .  
306–309, 326, 328, 329, 616–  
618, 628–630, 870–872, 881–883  
\PassOptionsToPackage . . . . .  
. . . . . 336, 343, 546, 598, 799, 851  
\pdfstringdefPreHook 208, 1005, 1160  
\penalty . . . . . 299, 612, 866  
\PGLS . . . . . 342, 602, 855  
\Pgls . . . . . 340, 340, 601, 854  
\pgls . . . . . 339, 340, 600, 853  
\PGLSpl . . . . . 342, 602, 855  
\Pglspl . . . . . 341, 341, 601, 854  
\pglspl . . . . . 340, 341, 600, 853  
\phantomsection 56, 409, 659, 915, 1069  
plural (key) . . . . . 79  
pluralaccess (key) . . . . . 345  
\printacronyms 20, 391, 640, 895, 1050  
\PrintChanges . 6, 383, 633, 887, 1042  
\printglossaries 199, 217, 492, 501,  
744, 753, 999, 1009, 1155, 1164  
\printglossary . . . . .  
. . . . . 20, 24, 40, 41, 199, 216,  
217, 236, 391, 393, 402, 403,  
492, 501, 511, 641, 643, 653,  
744, 753, 763, 895, 897, 908,  
999, 1008, 1009, 1019, 1050,  
1052, 1062, 1063, 1155, 1164, 1174  
\printindex . . . . . 41, 403, 653, 908, 1063  
\printnoidxglossaries . . . . .  
. . . . . 201, 217, 493, 501,  
745, 753, 1000, 1009, 1155, 1165  
\printnoidxglossary . . . . .  
200, 201, 203, 217, 217, 228,  
229, 236, 492, 493, 495, 501,  
506, 507, 511, 744, 745, 747,  
753, 758, 759, 763, 999, 1000,  
1002, 1009, 1013, 1014, 1019,  
1155, 1157, 1165, 1169, 1170, 1174  
\printnumbers . 41, 403, 653, 908, 1063  
\printsymbols . 40, 402, 653, 908, 1062  
\ProcessOptions . . . . .  
. . . . . 336, 343, 546, 598, 799, 851  
\ProcessOptionsX . . . . .  
. . . . . 42, 403, 653, 909, 1064  
\prop . . . . . 221–223  
\protect . . . . . 57, 122, 171, 257, 258,  
264, 280, 361, 362, 371, 372,  
377, 410, 450, 522, 523, 528,  
532, 535, 537, 562, 568, 569,  
573, 660, 700, 701, 774, 775,  
780, 784, 788, 790, 815, 821,  
822, 826, 916, 955, 980, 1029,



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1030, 1034, 1035, 1040, 1070,<br>1109, 1110, 1136, 1184–1186, 1190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 837, 856, 926, 927, 988, 989,<br>998, 1000, 1002, 1003, 1008,<br>1040, 1080, 1081, 1121, 1143,<br>1144, 1154, 1155, 1158, 1159, 1164                                                                                                                                                                                                                                                                                                                                                                |
| <code>\protected@csedef</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\protected@xdef</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| . . . . . 94, 431, 682, 938, 1093                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | . . . . . 16–18, 21, 26, 85, 100,                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <code>\protected@csxappto</code> . . . . . 1040                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 103, 105, 106, 211, 219, 348,                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\protected@csxdef</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 349, 389–391, 394, 425, 438,                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| . . . . . 94, 431, 682, 938, 1040, 1092                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 439, 498, 549–551, 638, 639,                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>\protected@eappto</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 641, 644, 676, 686, 688–690,                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| . . . . . 35, 78, 104, 208, 650, 671,<br>672, 689, 749, 905, 927, 928,<br>945, 1004, 1059, 1082, 1099, 1160                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 750, 754, 803, 804, 893–895,<br>898, 932, 942, 944–946, 1006,<br>1010, 1047, 1048, 1050, 1053,<br>1086, 1096–1100, 1161, 1165, 1166                                                                                                                                                                                                                                                                                                                                                                 |
| <code>\protected@edef</code> 8, 11, 18, 21, 35,<br>60, 61, 64, 66, 67, 70, 74, 76–<br>78, 94–100, 104, 105, 122, 127–<br>129, 171, 179, 181, 197, 199,<br>200, 206, 209, 212, 213, 216,<br>225, 226, 235, 238, 244, 247,<br>254, 270, 278, 352, 353, 380,<br>385, 386, 411, 412, 414, 416,<br>435, 437, 438, 444–446, 450,<br>453, 454, 479, 496–498, 511,<br>513, 514, 516, 520, 539, 543,<br>547, 552, 553, 583, 584, 599,<br>603, 634, 636, 639, 641, 650,<br>661, 663, 665, 666, 668, 670–<br>672, 682–686, 688, 689, 695–<br>697, 701, 703–705, 730, 731,<br>744, 748–750, 753, 755, 756,<br>763–766, 768, 772, 792, 796,<br>800, 805, 806, 829, 836, 837,<br>852, 856, 889, 890, 893–895,<br>905, 917, 918, 920, 922, 923,<br>926–928, 938–942, 944, 945,<br>955, 957, 958, 981, 985, 986,<br>997, 999, 1000, 1003, 1005,<br>1006, 1008, 1011, 1012, 1018,<br>1019, 1022, 1024, 1027, 1037,<br>1040, 1043, 1045, 1048, 1050,<br>1059, 1072, 1073, 1075–1078,<br>1080–1082, 1092–1096, 1099,<br>1100, 1109, 1110, 1112, 1113,<br>1136, 1140–1142, 1153–1155,<br>1159, 1161, 1162, 1164, 1167,<br>1174, 1175, 1178, 1179, 1183, 1193 | <code>\providecommand</code> 5, 20, 34, 47, 48,<br>55, 74, 114, 140, 186, 198, 201,<br>220, 285, 306, 325, 339, 344,<br>391, 399, 405, 408, 420, 443,<br>461, 482, 491, 493, 495, 503,<br>513, 514, 547, 600, 605, 616,<br>627, 640, 649, 655, 659, 670,<br>693, 713, 734, 743, 745, 747,<br>755, 765, 766, 800, 853, 859,<br>870, 881, 887, 895, 904, 910,<br>911, 914, 926, 950, 966, 989,<br>998, 1000, 1010, 1011, 1041,<br>1050, 1058, 1065, 1069, 1080,<br>1105, 1122, 1144, 1154, 1155, 1166 |
| <code>\protected@write</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <code>\provideglossaryentry</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| . . . . . 74, 76, 138, 184–186, 198,<br>200, 204, 206, 216, 280, 420,<br>481, 482, 491, 492, 495, 496,<br>501, 584, 603, 670, 671, 733,<br>734, 743, 744, 747, 748, 753,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | . . . . . 86, 427, 677, 933, 1087                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\ProvidesFile</code> . 48, 405, 655, 911, 1065                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\ProvidesGlossariesLang</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | . . . . . 48, 405, 655, 911, 1065                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\ProvidesPackage</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | . . . . . 4, 278, 282, 284, 289, 295,<br>300, 306, 311, 319, 325, 335,<br>336, 343, 382, 383, 546, 581,<br>582, 587, 598, 603–605, 607,<br>611, 613, 616, 620, 624, 627,<br>633, 799, 834, 835, 841, 851,<br>856, 857, 859, 861, 864, 867,<br>870, 873, 877, 881, 886, 1040, 1041                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Q</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\quark</code> . . . . . 222                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>R</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\r</code> . . . . . 26, 394, 644, 898, 1053                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <code>\raggedright</code> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                              | 298, 300–305, 319–325, 612–616, 624–627, 865–870, 878–881                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  | 1171, 1173, 1174, 1177, 1178, 1193                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <code>\raisebox</code>       | 138, 460, 712, 966, 1120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <code>\renewacronymstyle</code>  | 256, 371–374, 376–379, 521, 568–571, 573–575, 773, 821–824, 826, 828, 1028, 1184                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| <code>\ref</code>            | 238, 512, 764, 1020, 1175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <code>\renewcommand</code>       | 5–7, 9–15, 18–20, 22–24, 28, 30, 31, 34, 37, 38, 40, 42, 45, 49–53, 66, 78, 81, 82, 97, 108, 112, 113, 179, 181, 183, 184, 190, 191, 197–202, 219, 221, 224, 235, 249, 254, 255, 257–261, 263–266, 282, 283, 286–294, 296, 297, 299–316, 319–324, 326–334, 344, 348, 357, 359, 361, 362, 369–380, 383–388, 390–393, 396–403, 405–407, 415, 421, 423, 433, 441, 442, 479–481, 485, 486, 491–494, 502, 503, 511, 520–531, 533, 534, 536–538, 540–542, 544, 547, 549, 555, 558, 560–562, 567–579, 582, 583, 587–597, 604–622, 624–626, 628–638, 640–643, 645–649, 651, 652, 654, 656, 657, 665, 672–674, 684, 692, 693, 730–732, 737, 738, 743–746, 754, 755, 762, 763, 772–787, 789, 791, 793–795, 797, 800, 802, 803, 808, 811, 813, 815, 820–832, 835, 836, 840–850, 857–876, 878–892, 894–897, 900–902, 904, 906, 908, 909, 911–913, 921, 928–930, 940, 947, 949, 950, 985–987, 992, 993, 998–1001, 1010, 1011, 1018, 1025, 1027–1036, 1041–1047, 1049–1052, 1054–1057, 1059–1064, 1066–1068, 1076, 1082–1084, 1095, 1101, 1104, 1105, 1141–1143, 1147, 1148, 1153–1157, 1165, 1166, 1174, 1180, 1182–1192 |  |
| <code>\refstepcounter</code> | 106–108, 238, 512, 764, 946, 947, 1019, 1101, 1175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <code>\renewenvironment</code>   | 239, 282, 286, 289–295, 297, 298, 300–326, 328, 329, 332, 513, 604, 606–610, 612–631, 765, 857, 859, 861–883, 885, 1020, 1176                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <code>\regex</code>          | 243, 1021, 1177                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\renewglossarystyle</code> | 244, 516, 768, 1022, 1178                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <code>\relax</code>          | 7, 10, 13, 17, 18, 20, 30, 31, 35, 37, 40, 41, 44, 45, 61, 74, 79, 81, 85, 88, 100, 103, 108, 112, 113, 124, 125, 128–130, 132–137, 172, 187, 188, 190, 192, 193, 197–202, 207, 212, 214, 215, 218, 219, 231, 232, 234, 235, 243, 244, 272, 281, 285, 299, 306, 310, 311, 325, 327, 328, 330–334, 347, 348, 362–364, 384, 386, 387, 389–391, 397, 398, 400, 402–404, 412, 420, 422, 423, 426, 427, 435, 437, 439, 442, 451–460, 475, 483–488, 491–494, 497–500, 502, 508, 510, 511, 515, 516, 544, 549, 562, 563, 576–579, 583, 585–587, 592–594, 603, 606, 612, 616, 619, 620, 627–633, 636, 637, 639, 640, 647, 650–654, 662, 670, 672, 673, 676, 678, 686, 688, 690, 692, 693, 702, 704–711, 726, 727, 735–737, 739, 740, 742–746, 749–752, 754, 760, 762, 767, 768, 797, 802, 803, 815, 816, 829–831, 833, 836, 838–840, 845–847, 856, 859, 866, 870, 873, 881–887, 890, 891, 893–895, 901, 902, 905, 907–910, 918, 926, 928, 929, 932, 934, 942, 944, 947, 949, 950, 956, 958–965, 981, 989–992, 994, 995, 997, 998, 1000, 1001, 1004, 1006–1010, 1015–1018, 1022, 1037, 1040, 1042, 1044, 1046, 1048, 1049, 1056, 1057, 1059, 1060, 1062–1064, 1073, 1080, 1083, 1084, 1087, 1088, 1096–1098, 1102, 1104, 1105, 1110–1120, 1136, 1137, 1145–1150, 1153–1157, 1159, 1161–1163, 1165, 1166, |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |

|                                                                                                                                                                          |                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\RequireGlossariesLang</code> .....                                                                                                                                | <code>\seq</code> .....                                                                                                                                         |
| ..... <a href="#">48</a> , <a href="#">49</a> , <a href="#">335</a> ,                                                                                                    | <a href="#">221</a> , <a href="#">222</a> , <a href="#">224</a> , <a href="#">279</a> , <a href="#">281</a>                                                     |
| <a href="#">336</a> , <a href="#">405</a> , <a href="#">406</a> , <a href="#">581</a> , <a href="#">598</a> , <a href="#">655</a> ,                                      | <code>\setabbreviationstyle</code> .....                                                                                                                        |
| <a href="#">656</a> , <a href="#">834</a> , <a href="#">851</a> , <a href="#">911</a> , <a href="#">912</a> , <a href="#">1065</a> , <a href="#">1066</a>                | ..... <a href="#">271</a> , <a href="#">795</a> , <a href="#">1037</a> , <a href="#">1193</a>                                                                   |
| <code>\RequirePackage</code> .....                                                                                                                                       | <code>\SetAcronymLists</code> .....                                                                                                                             |
| ..... <a href="#">4</a> – <a href="#">6</a> ,                                                                                                                            | ..... <a href="#">22</a> , <a href="#">392</a> , <a href="#">641</a> , <a href="#">896</a> , <a href="#">1050</a>                                               |
| <a href="#">12</a> , <a href="#">13</a> , <a href="#">29</a> , <a href="#">30</a> , <a href="#">43</a> , <a href="#">48</a> , <a href="#">50</a> , <a href="#">271</a> , | <code>\SetAcronymStyle</code> .....                                                                                                                             |
| <a href="#">289</a> , <a href="#">295</a> , <a href="#">300</a> , <a href="#">306</a> , <a href="#">311</a> , <a href="#">319</a> ,                                      | ..... <a href="#">271</a> ,                                                                                                                                     |
| <a href="#">335</a> , <a href="#">336</a> , <a href="#">344</a> , <a href="#">383</a> , <a href="#">387</a> , <a href="#">397</a> ,                                      | <a href="#">398</a> , <a href="#">399</a> , <a href="#">542</a> , <a href="#">543</a> , <a href="#">648</a> , <a href="#">795</a> , <a href="#">796</a>         |
| <a href="#">403</a> , <a href="#">405</a> , <a href="#">544</a> , <a href="#">546</a> , <a href="#">547</a> , <a href="#">581</a> ,                                      | <code>\setacronymstyle</code> .....                                                                                                                             |
| <a href="#">598</a> , <a href="#">607</a> , <a href="#">611</a> , <a href="#">613</a> , <a href="#">616</a> , <a href="#">620</a> ,                                      | ..... <a href="#">249</a> , <a href="#">255</a> , <a href="#">271</a> , <a href="#">521</a> , <a href="#">773</a> , <a href="#">795</a> ,                       |
| <a href="#">624</a> , <a href="#">633</a> , <a href="#">636</a> , <a href="#">637</a> , <a href="#">646</a> , <a href="#">647</a> ,                                      | <a href="#">1025</a> , <a href="#">1028</a> , <a href="#">1037</a> , <a href="#">1180</a> , <a href="#">1183</a> , <a href="#">1193</a>                         |
| <a href="#">653</a> , <a href="#">655</a> , <a href="#">797</a> , <a href="#">799</a> , <a href="#">800</a> , <a href="#">834</a> ,                                      | <code>\setbool</code> .....                                                                                                                                     |
| <a href="#">851</a> , <a href="#">861</a> , <a href="#">864</a> , <a href="#">867</a> , <a href="#">870</a> , <a href="#">873</a> ,                                      | ..... <a href="#">28</a> , <a href="#">396</a> , <a href="#">646</a> , <a href="#">900</a> , <a href="#">1055</a>                                               |
| <a href="#">877</a> , <a href="#">886</a> , <a href="#">887</a> , <a href="#">891</a> , <a href="#">901</a> , <a href="#">902</a> ,                                      | <code>\setbox</code> .....                                                                                                                                      |
| <a href="#">909</a> , <a href="#">911</a> , <a href="#">1037</a> , <a href="#">1041</a> , <a href="#">1042</a> ,                                                         | ..... <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                     |
| <a href="#">1045</a> , <a href="#">1046</a> , <a href="#">1056</a> , <a href="#">1064</a> , <a href="#">1066</a> , <a href="#">1193</a>                                  | <code>\setcounter</code> .....                                                                                                                                  |
| <code>\restorecounters@</code> .....                                                                                                                                     | ..... <a href="#">512</a> , <a href="#">764</a> , <a href="#">946</a> , <a href="#">1019</a> , <a href="#">1101</a> , <a href="#">1175</a>                      |
| ..... <a href="#">128</a> , <a href="#">453</a> , <a href="#">704</a> , <a href="#">958</a> , <a href="#">1113</a>                                                       | <code>\SetCustomDisplayStyle</code> .....                                                                                                                       |
| <code>restoremakeloss</code> (option) .....                                                                                                                              | ..... <a href="#">271</a> , <a href="#">543</a> , <a href="#">544</a> , <a href="#">796</a> , <a href="#">797</a>                                               |
| ..... <a href="#">35</a>                                                                                                                                                 | <code>\SetCustomStyle</code> .....                                                                                                                              |
| <code>\romannumeral</code> .....                                                                                                                                         | ..... <a href="#">271</a> , <a href="#">544</a> , <a href="#">797</a>                                                                                           |
| ..... <a href="#">207</a> , <a href="#">211</a> , <a href="#">331</a> , <a href="#">333</a> , <a href="#">497</a> , <a href="#">498</a> ,                                | <code>\SetDefaultAcronymDisplayStyle</code>                                                                                                                     |
| <a href="#">594</a> , <a href="#">631</a> , <a href="#">632</a> , <a href="#">749</a> , <a href="#">750</a> , <a href="#">847</a> ,                                      | ..... <a href="#">268</a> , <a href="#">530</a> , <a href="#">531</a> , <a href="#">782</a> , <a href="#">783</a> , <a href="#">1037</a> , <a href="#">1193</a> |
| <a href="#">884</a> , <a href="#">885</a> , <a href="#">1004</a> , <a href="#">1005</a> , <a href="#">1160</a> , <a href="#">1161</a>                                    | <code>\SetDefaultAcronymStyle</code> .....                                                                                                                      |
|                                                                                                                                                                          | ..... <a href="#">268</a> , <a href="#">531</a> , <a href="#">542</a> , <a href="#">783</a> , <a href="#">795</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionAcronymDisplayStyle</code>                                                                                                                 |
|                                                                                                                                                                          | ..... <a href="#">269</a> , <a href="#">535</a> , <a href="#">536</a> , <a href="#">787</a> , <a href="#">789</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionAcronymStyle</code> ...                                                                                                                    |
|                                                                                                                                                                          | ..... <a href="#">270</a> , <a href="#">536</a> , <a href="#">542</a> , <a href="#">789</a> , <a href="#">796</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionDUAAcronymDisplayStyle</code>                                                                                                              |
|                                                                                                                                                                          | ..... <a href="#">269</a> , <a href="#">533</a> – <a href="#">535</a> , <a href="#">786</a> , <a href="#">787</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionDUAAcronymStyle</code>                                                                                                                     |
|                                                                                                                                                                          | ..... <a href="#">269</a> , <a href="#">534</a> , <a href="#">542</a> , <a href="#">787</a> , <a href="#">796</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionFootnoteAcronymDisplayStyle</code>                                                                                                         |
|                                                                                                                                                                          | ..... <a href="#">269</a> , <a href="#">531</a> , <a href="#">533</a> , <a href="#">784</a> – <a href="#">786</a>                                               |
|                                                                                                                                                                          | <code>\SetDescriptionFootnoteAcronymStyle</code>                                                                                                                |
|                                                                                                                                                                          | ..... <a href="#">269</a> , <a href="#">533</a> , <a href="#">542</a> , <a href="#">785</a> , <a href="#">796</a>                                               |
|                                                                                                                                                                          | <code>\SetDUADisplayStyle</code> .....                                                                                                                          |
|                                                                                                                                                                          | ..... <a href="#">270</a> , <a href="#">541</a> , <a href="#">542</a> , <a href="#">794</a> , <a href="#">795</a>                                               |
|                                                                                                                                                                          | <code>\SetDUASStyle</code> ..                                                                                                                                   |
|                                                                                                                                                                          | ..... <a href="#">271</a> , <a href="#">542</a> , <a href="#">543</a> , <a href="#">795</a> , <a href="#">796</a>                                               |
|                                                                                                                                                                          | <code>\setentrycounter</code> ..                                                                                                                                |
|                                                                                                                                                                          | ..... <a href="#">59</a> , <a href="#">186</a> , <a href="#">234</a> , <a href="#">243</a> ,                                                                    |
|                                                                                                                                                                          | <a href="#">411</a> , <a href="#">482</a> , <a href="#">510</a> , <a href="#">515</a> , <a href="#">582</a> , <a href="#">661</a> ,                             |
|                                                                                                                                                                          | <a href="#">734</a> , <a href="#">762</a> , <a href="#">767</a> , <a href="#">835</a> , <a href="#">917</a> , <a href="#">989</a> ,                             |
|                                                                                                                                                                          | <a href="#">1017</a> , <a href="#">1022</a> , <a href="#">1072</a> , <a href="#">1144</a> , <a href="#">1173</a> , <a href="#">1178</a>                         |
|                                                                                                                                                                          | <code>\SetFootnoteAcronymDisplayStyle</code>                                                                                                                    |
|                                                                                                                                                                          | ..... <a href="#">270</a> , <a href="#">537</a> , <a href="#">538</a> , <a href="#">789</a> , <a href="#">791</a>                                               |
|                                                                                                                                                                          | <code>\SetFootnoteAcronymStyle</code> .....                                                                                                                     |
|                                                                                                                                                                          | ..... <a href="#">270</a> , <a href="#">538</a> , <a href="#">543</a> , <a href="#">791</a> , <a href="#">796</a>                                               |
|                                                                                                                                                                          | <code>\SetGenericNewAcronym</code> .....                                                                                                                        |
|                                                                                                                                                                          | ..... <a href="#">254</a> , <a href="#">256</a> , <a href="#">520</a> , <a href="#">521</a> ,                                                                   |
|                                                                                                                                                                          | <a href="#">772</a> , <a href="#">773</a> , <a href="#">1027</a> , <a href="#">1028</a> , <a href="#">1182</a> , <a href="#">1184</a>                           |
|                                                                                                                                                                          | <code>\setglossarypreamble</code> .....                                                                                                                         |
|                                                                                                                                                                          | ..... <a href="#">54</a> , <a href="#">408</a> , <a href="#">658</a> , <a href="#">913</a> , <a href="#">1068</a>                                               |

## S

|                                                                                                                                                                 |                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\s@glshyp@opt</code> .....                                                                                                                                | ..... <a href="#">124</a> , <a href="#">124</a> , <a href="#">451</a> , <a href="#">702</a> , <a href="#">956</a> , <a href="#">1110</a> |
| <code>\s@GlsSetXdyFirstLetterAfterDigits</code>                                                                                                                 | ..... <a href="#">183</a> , <a href="#">480</a> , <a href="#">732</a> , <a href="#">986</a> , <a href="#">987</a> , <a href="#">1142</a> |
| <code>\s@GlsSetXdyNumberGroupOrder</code> ..                                                                                                                    | ..... <a href="#">183</a> ,                                                                                                              |
| ..... <a href="#">184</a> , <a href="#">480</a> , <a href="#">481</a> , <a href="#">732</a> , <a href="#">987</a> , <a href="#">1142</a> , <a href="#">1143</a> |                                                                                                                                          |
| <code>\s@ifglossaryexists</code> .....                                                                                                                          | ..... <a href="#">67</a> , <a href="#">68</a> , <a href="#">217</a> , <a href="#">416</a> , <a href="#">501</a> , <a href="#">666</a> ,  |
| ..... <a href="#">667</a> , <a href="#">753</a> , <a href="#">922</a> , <a href="#">1009</a> , <a href="#">1077</a> , <a href="#">1164</a>                      |                                                                                                                                          |
| <code>\s@newglossary</code> .....                                                                                                                               | ..... <a href="#">75</a> , <a href="#">75</a> , <a href="#">420</a> , <a href="#">670</a> , <a href="#">926</a> , <a href="#">1081</a>   |
| <code>sanitize</code> (option) .....                                                                                                                            | ..... <a href="#">29</a>                                                                                                                 |
| <code>sanitizesort</code> (option) .....                                                                                                                        | ..... <a href="#">28</a>                                                                                                                 |
| <code>\savecounters@</code> .....                                                                                                                               | ..... <a href="#">128</a> , <a href="#">453</a> , <a href="#">704</a> , <a href="#">958</a> , <a href="#">1112</a>                       |
| <code>savenumberlist</code> (option) .....                                                                                                                      | ..... <a href="#">12</a>                                                                                                                 |
| <code>savewrites</code> (option) .....                                                                                                                          | ..... <a href="#">38</a>                                                                                                                 |
| <code>sc-short-long</code> (acrstyle) .....                                                                                                                     | ..... <a href="#">259</a>                                                                                                                |
| <code>sc-short-long-desc</code> (acrstyle) .....                                                                                                                | ..... <a href="#">261</a> , <a href="#">373</a>                                                                                          |
| <code>section</code> (option) .....                                                                                                                             | ..... <a href="#">10</a>                                                                                                                 |
| <code>see</code> (key) .....                                                                                                                                    | ..... <a href="#">80</a>                                                                                                                 |
| <code>seeautonumberlist</code> (option) .....                                                                                                                   | ..... <a href="#">12</a>                                                                                                                 |
| <code>\seename</code> ..                                                                                                                                        | ..... <a href="#">48</a> , <a href="#">214</a> , <a href="#">215</a> , <a href="#">405</a> , <a href="#">500</a> ,                       |
| ..... <a href="#">655</a> , <a href="#">752</a> , <a href="#">911</a> , <a href="#">1008</a> , <a href="#">1065</a> , <a href="#">1163</a>                      |                                                                                                                                          |
| <code>seencindex</code> (option) .....                                                                                                                          | ..... <a href="#">9</a>                                                                                                                  |

|                                                                                                                                                               |                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\setglossarysection</code> .....                                                                                                                        | <code>\show</code> .....                                                                                                                  |
| ..... <a href="#">55</a> , <a href="#">409</a> , <a href="#">659</a> , <a href="#">914</a> , <a href="#">1069</a>                                             | ..... <a href="#">272–277</a> , <a href="#">381</a> , <a href="#">382</a> ,                                                               |
| <code>\setglossarystyle</code> .....                                                                                                                          | <a href="#">544–546</a> , <a href="#">580</a> , <a href="#">581</a> , <a href="#">797–799</a> ,                                           |
| ..... <a href="#">218</a> ,                                                                                                                                   | <a href="#">833</a> , <a href="#">834</a> , <a href="#">1038</a> , <a href="#">1039</a> , <a href="#">1193–1195</a>                       |
| <a href="#">235</a> , <a href="#">244</a> , <a href="#">272</a> , <a href="#">286–288</a> , <a href="#">290–</a>                                              | <code>\showacronymlists</code> .....                                                                                                      |
| <a href="#">298</a> , <a href="#">301–311</a> , <a href="#">313–318</a> , <a href="#">320–</a>                                                                | ..... <a href="#">276</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| <a href="#">322</a> , <a href="#">324</a> , <a href="#">327</a> , <a href="#">329</a> , <a href="#">330</a> , <a href="#">334</a> ,                           | <code>\showglocounter</code> .....                                                                                                        |
| <a href="#">502</a> , <a href="#">515</a> , <a href="#">516</a> , <a href="#">544</a> , <a href="#">606–612</a> ,                                             | ..... <a href="#">273</a> , <a href="#">544</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                       |
| <a href="#">614–630</a> , <a href="#">632</a> , <a href="#">754</a> , <a href="#">767</a> , <a href="#">768</a> ,                                             | <code>\showglodesc</code> <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>   |
| <a href="#">797</a> , <a href="#">859–884</a> , <a href="#">886</a> , <a href="#">1009</a> , <a href="#">1018</a> ,                                           | <code>\showglodescaccess</code> .... <a href="#">381</a> , <a href="#">581</a> , <a href="#">834</a>                                      |
| <a href="#">1022</a> , <a href="#">1038</a> , <a href="#">1165</a> , <a href="#">1173</a> , <a href="#">1178</a> , <a href="#">1193</a>                       | <code>\showglodescplural</code> .....                                                                                                     |
| <code>\setglossentrycompatibility</code> ...                                                                                                                  | ..... <a href="#">275</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1039</a> , <a href="#">1194</a>                       |
| ..... <a href="#">241</a> , <a href="#">510</a> , <a href="#">514</a> , <a href="#">516</a> , <a href="#">762</a> , <a href="#">766</a> , <a href="#">768</a> | <code>\showglodescpluralaccess</code> .....                                                                                               |
| <code>\setkeys</code> .....                                                                                                                                   | ..... <a href="#">381</a> , <a href="#">581</a> , <a href="#">834</a>                                                                     |
| ..... <a href="#">29</a> , <a href="#">34</a> , <a href="#">45</a> ,                                                                                          | <code>\showglofield</code> <a href="#">276</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>  |
| <a href="#">55</a> , <a href="#">99</a> , <a href="#">127</a> , <a href="#">181</a> , <a href="#">218</a> , <a href="#">254</a> , <a href="#">396</a> ,       | <code>\showglofirst</code> <a href="#">273</a> , <a href="#">544</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1193</a>  |
| <a href="#">399</a> , <a href="#">404</a> , <a href="#">409</a> , <a href="#">434</a> , <a href="#">452</a> , <a href="#">479</a> ,                           | <code>\showglofirstaccess</code> ... <a href="#">381</a> , <a href="#">580</a> , <a href="#">833</a>                                      |
| <a href="#">480</a> , <a href="#">502</a> , <a href="#">520</a> , <a href="#">531</a> , <a href="#">533</a> , <a href="#">534</a> ,                           | <code>\showglofirstpl</code> .....                                                                                                        |
| <a href="#">536</a> , <a href="#">538</a> , <a href="#">540</a> , <a href="#">542</a> , <a href="#">544</a> , <a href="#">646</a> ,                           | ..... <a href="#">273</a> , <a href="#">544</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                       |
| <a href="#">649</a> , <a href="#">654</a> , <a href="#">659</a> , <a href="#">685</a> , <a href="#">703</a> , <a href="#">731</a> ,                           | <code>\showglofirstpluralaccess</code> .....                                                                                              |
| <a href="#">754</a> , <a href="#">772</a> , <a href="#">783</a> , <a href="#">785</a> , <a href="#">787</a> , <a href="#">789</a> ,                           | ..... <a href="#">381</a> , <a href="#">580</a> , <a href="#">834</a>                                                                     |
| <a href="#">791</a> , <a href="#">793</a> , <a href="#">795</a> , <a href="#">797</a> , <a href="#">901</a> , <a href="#">904</a> ,                           | <code>\showgloflag</code> <a href="#">276</a> , <a href="#">545</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>   |
| <a href="#">910</a> , <a href="#">914</a> , <a href="#">941</a> , <a href="#">957</a> , <a href="#">986</a> , <a href="#">1009</a> ,                          | <code>\showgloindex</code> <a href="#">276</a> , <a href="#">545</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>  |
| <a href="#">1027</a> , <a href="#">1055</a> , <a href="#">1058</a> , <a href="#">1064</a> , <a href="#">1069</a> ,                                            | <code>\showglolevel</code> <a href="#">272</a> , <a href="#">544</a> , <a href="#">797</a> , <a href="#">1038</a> , <a href="#">1193</a>  |
| <a href="#">1096</a> , <a href="#">1112</a> , <a href="#">1141</a> , <a href="#">1142</a> , <a href="#">1165</a> , <a href="#">1182</a>                       | <code>\showgloloclist</code> .....                                                                                                        |
| <code>\setlength</code> .....                                                                                                                                 | ..... <a href="#">276</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| ..... <a href="#">288</a> , <a href="#">289</a> , <a href="#">300</a> , <a href="#">306–309</a> , <a href="#">312</a> ,                                       | <code>\showglolong</code> <a href="#">275</a> , <a href="#">545</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1194</a>   |
| <a href="#">319</a> , <a href="#">326</a> , <a href="#">328</a> , <a href="#">329</a> , <a href="#">333</a> , <a href="#">594</a> ,                           | <code>\showglolongaccess</code> .... <a href="#">382</a> , <a href="#">581</a> , <a href="#">834</a>                                      |
| <a href="#">607</a> , <a href="#">613</a> , <a href="#">616–618</a> , <a href="#">620</a> , <a href="#">624</a> ,                                             | <code>\showglolongpluralaccess</code> .....                                                                                               |
| <a href="#">628–632</a> , <a href="#">847</a> , <a href="#">860</a> , <a href="#">861</a> , <a href="#">867</a> ,                                             | ..... <a href="#">382</a> , <a href="#">581</a> , <a href="#">834</a>                                                                     |
| <a href="#">870–874</a> , <a href="#">877</a> , <a href="#">878</a> , <a href="#">881–883</a> , <a href="#">885</a>                                           | <code>\showglongname</code> <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a> |
| <code>\SetSmallAcronymDisplayStyle</code> ..                                                                                                                  | <code>\showglongnameaccess</code> .... <a href="#">381</a> , <a href="#">580</a> , <a href="#">833</a>                                    |
| ..... <a href="#">270</a> , <a href="#">539–541</a> , <a href="#">792–794</a>                                                                                 | <code>\showgloparent</code> .....                                                                                                         |
| <code>\SetSmallAcronymStyle</code> .....                                                                                                                      | ..... <a href="#">272</a> , <a href="#">544</a> , <a href="#">797</a> , <a href="#">1038</a> , <a href="#">1193</a>                       |
| ..... <a href="#">270</a> , <a href="#">540</a> , <a href="#">543</a> , <a href="#">793</a> , <a href="#">796</a>                                             | <code>\showgloplural</code> .....                                                                                                         |
| <code>\setStyleFile</code> .....                                                                                                                              | ..... <a href="#">272</a> , <a href="#">544</a> , <a href="#">797</a> , <a href="#">1038</a> , <a href="#">1193</a>                       |
| ..... <a href="#">51</a> , <a href="#">407</a> , <a href="#">657</a> , <a href="#">912</a> , <a href="#">913</a> , <a href="#">1067</a>                       | <code>\showglopluralaccess</code> .. <a href="#">381</a> , <a href="#">580</a> , <a href="#">833</a>                                      |
| <code>\settodepth</code> .....                                                                                                                                | <code>\showgloshort</code> <a href="#">275</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1039</a> , <a href="#">1194</a>  |
| ..... <a href="#">108</a> , <a href="#">947</a> , <a href="#">1102</a>                                                                                        | <code>\showgloshortaccess</code> ... <a href="#">382</a> , <a href="#">581</a> , <a href="#">834</a>                                      |
| <code>\settoheight</code> . <a href="#">108</a> , <a href="#">460</a> , <a href="#">712</a> , <a href="#">947</a> , <a href="#">1102</a>                      | <code>\showgloshortpluralaccess</code> .....                                                                                              |
| <code>\settowidth</code> .....                                                                                                                                | ..... <a href="#">382</a> , <a href="#">581</a> , <a href="#">834</a>                                                                     |
| ..... <a href="#">108</a> , <a href="#">258</a> , <a href="#">523</a> ,                                                                                       | <code>\showglosort</code> <a href="#">275</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1039</a> , <a href="#">1194</a>   |
| <a href="#">593</a> , <a href="#">594</a> , <a href="#">631</a> , <a href="#">632</a> , <a href="#">775</a> , <a href="#">847</a> ,                           | <code>\showglossaries</code> .....                                                                                                        |
| <a href="#">884</a> , <a href="#">885</a> , <a href="#">947</a> , <a href="#">1030</a> , <a href="#">1102</a> , <a href="#">1185</a>                          | ..... <a href="#">276</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| <code>\setupglossaries</code> .....                                                                                                                           | <code>\showglossarycounter</code> .....                                                                                                   |
| ..... <a href="#">45</a> , <a href="#">403</a> , <a href="#">654</a> , <a href="#">909</a> , <a href="#">1064</a>                                             | ..... <a href="#">277</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| <code>\sfcode</code> .....                                                                                                                                    | <code>\showglossaryentries</code> .....                                                                                                   |
| ..... <a href="#">13</a> , <a href="#">387</a> , <a href="#">637</a> , <a href="#">891</a> , <a href="#">1046</a>                                             | ..... <a href="#">277</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| <code>short</code> (key) .....                                                                                                                                | <code>\showglossaryin</code> .....                                                                                                        |
| ..... <a href="#">83</a>                                                                                                                                      | ..... <a href="#">277</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                       |
| <code>short-long</code> (acrstyle) .....                                                                                                                      |                                                                                                                                           |
| ..... <a href="#">258</a> , <a href="#">371</a>                                                                                                               |                                                                                                                                           |
| <code>short-long-desc</code> (acrstyle) ..                                                                                                                    |                                                                                                                                           |
| ..... <a href="#">261</a> , <a href="#">373</a>                                                                                                               |                                                                                                                                           |
| <code>shortaccess</code> (key) .....                                                                                                                          |                                                                                                                                           |
| ..... <a href="#">346</a>                                                                                                                                     |                                                                                                                                           |
| <code>shortcuts</code> (option) .....                                                                                                                         |                                                                                                                                           |
| ..... <a href="#">32</a>                                                                                                                                      |                                                                                                                                           |
| <code>shortplural</code> (key) .....                                                                                                                          |                                                                                                                                           |
| ..... <a href="#">83</a>                                                                                                                                      |                                                                                                                                           |
| <code>shortpluralaccess</code> (key) .....                                                                                                                    |                                                                                                                                           |
| ..... <a href="#">346</a>                                                                                                                                     |                                                                                                                                           |

|                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\showglossaryout</code> .....                                                                                                      | 666, 673–675, 692, 694, 700–702, 730, 733–736, 740–747, 752, 754, 755, 764, 768, 770, 774–782, 788, 792, 815, 821–829, 835–839, 842, 844–850, 857–861, 867, 874, 878, 881–885, 889, 904, 905, 907, 910, 917, 919–922, 926, 929–931, 949, 951, 952, 955, 985, 988–990, 994–1000, 1002, 1004, 1008, 1009, 1011, 1020, 1025, 1029–1037, 1041, 1044, 1058–1060, 1062, 1065, 1071, 1074–1076, 1080, 1084, 1085, 1104, 1106, 1109, 1110, 1140, 1143–1146, 1150–1157, 1160, 1164–1166, 1175, 1176, 1181, 1184–1193                                                                                                                                                                                                                                                                                                                                                        |
| ..... <a href="#">277</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglossarytitle</code> .....                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">277</a> , <a href="#">546</a> , <a href="#">799</a> , <a href="#">1039</a> , <a href="#">1195</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglosymbol</code> .....                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">275</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1039</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglosymbolaccess</code> ..                                                                                                     | <a href="#">381</a> , <a href="#">580</a> , <a href="#">834</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglosymbolplural</code> .....                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">275</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1039</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglosymbolpluralaccess</code> .....                                                                                            | <a href="#">381</a> , <a href="#">580</a> , <a href="#">834</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglotext</code> <a href="#">272</a> , <a href="#">544</a> , <a href="#">797</a> , <a href="#">1038</a> , <a href="#">1193</a>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglotextaccess</code> .....                                                                                                    | <a href="#">381</a> , <a href="#">580</a> , <a href="#">833</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglotype</code> <a href="#">273</a> , <a href="#">544</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouser</code> <a href="#">273</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouserii</code> .....                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">273</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouseriii</code> .....                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouseriv</code> .....                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouserv</code> <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\showglouservi</code> .....                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ..... <a href="#">274</a> , <a href="#">545</a> , <a href="#">798</a> , <a href="#">1038</a> , <a href="#">1194</a>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>sm-short-long</code> ( <code>acrstyle</code> ) .....                                                                               | <a href="#">259</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <code>sm-short-long-desc</code> ( <code>acrstyle</code> ) .....                                                                          | <a href="#">261</a> , <a href="#">374</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <code>smallcaps</code> (option) .....                                                                                                    | <a href="#">32</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>smaller</code> (option) .....                                                                                                      | <a href="#">32</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>\SmallNewAcronymDef</code> .....                                                                                                   | <a href="#">270</a> , <a href="#">380</a> , <a href="#">539</a> , <a href="#">541</a> , <a href="#">579</a> , <a href="#">792</a> , <a href="#">794</a> , <a href="#">832</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <code>sort</code> (key) .....                                                                                                            | <a href="#">79</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>sort</code> (option) .....                                                                                                         | <a href="#">15</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>\space</code> .....                                                                                                                | 9, 34–36, 39, 40, 47, 59, 63, 64, 66, 74, 81, 83, 112, 114–116, 121, 122, 179, 185–188, 193, 195–199, 201, 203, 208, 215, 218, 221, 238, 250, 257, 258, 260, 261, 263–266, 270, 281, 284, 286, 287, 289, 301, 312, 319, 320, 326–328, 330, 332, 333, 361, 362, 371–380, 385, 399–402, 405, 411, 414, 416, 423, 424, 441, 443, 444, 450, 451, 478, 481–484, 488–495, 500, 502, 503, 512, 513, 516, 519, 522–530, 535, 539, 561, 562, 568–576, 582–586, 588–596, 604–608, 613, 620, 624, 628–632, 635, 649–652, 655, 661, 664,                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                          | 666, 673–675, 692, 694, 700–702, 730, 733–736, 740–747, 752, 754, 755, 764, 768, 770, 774–782, 788, 792, 815, 821–829, 835–839, 842, 844–850, 857–861, 867, 874, 878, 881–885, 889, 904, 905, 907, 910, 917, 919–922, 926, 929–931, 949, 951, 952, 955, 985, 988–990, 994–1000, 1002, 1004, 1008, 1009, 1011, 1020, 1025, 1029–1037, 1041, 1044, 1058–1060, 1062, 1065, 1071, 1074–1076, 1080, 1084, 1085, 1104, 1106, 1109, 1110, 1140, 1143–1146, 1150–1157, 1160, 1164–1166, 1175, 1176, 1181, 1184–1193                                                                                                                                                                                                                                                                                                                                                        |
| <code>\spacefactor</code> ..                                                                                                             | 13, 387, 637, 891, 1046                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>\SS</code> .....                                                                                                                   | 27, 395, 645, 899, 1054                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>\ss</code> .....                                                                                                                   | 27, 395, 645, 899, 1054                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>\str</code> .....                                                                                                                  | 243, 1022, 1177                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\string</code> .....                                                                                                               | 9, 18, 19, 24, 27, 34–36, 39, 40, 47, 57–64, 66, 74, 76, 81, 83, 89, 92, 93, 104, 105, 112, 114–116, 129, 130, 132–134, 136, 138, 179, 182–190, 192–194, 198–201, 203, 204, 208, 212–214, 218, 220, 221, 228, 229, 236, 249, 271, 280, 382, 383, 385, 390, 393, 399–402, 405, 410–416, 420, 423, 424, 427, 428, 430, 438, 441, 443, 444, 450, 451, 454, 456, 457, 459, 478, 480–485, 487, 488, 491–495, 499, 500, 502, 503, 506, 507, 511, 514–516, 582–587, 603, 635, 640, 643, 649–652, 655, 660, 661, 663–666, 670, 671, 673–675, 678–681, 689, 692–694, 701, 702, 705, 707–709, 711, 730–737, 739, 740, 743–747, 751, 752, 754, 755, 758, 759, 763, 766, 768, 795, 835–840, 856, 889, 894, 897, 899, 904, 905, 907, 910, 916–922, 926, 927, 929–931, 934–937, 945, 949–952, 958, 959, 961, 962, 964, 965, 985–992, 994, 995, 998–1000, 1002, 1004, 1006, 1007, |

|                                                   |                       |
|---------------------------------------------------|-----------------------|
| 1009–1011, 1013, 1014, 1019,                      |                       |
| 1025, 1037, 1040, 1044, 1049,                     |                       |
| 1052, 1054, 1058–1060, 1062,                      |                       |
| 1065, 1070–1076, 1080, 1081,                      |                       |
| 1084, 1085, 1089, 1091, 1092,                     |                       |
| 1099, 1100, 1104–1106, 1113–                      |                       |
| 1117, 1119, 1121, 1140, 1142–                     |                       |
| 1147, 1149–1151, 1154–1158,                       |                       |
| 1160, 1162, 1163, 1165, 1166,                     |                       |
| 1169, 1170, 1174, 1180, 1193                      |                       |
| <code>\strut</code> . . . . .                     | <a href="#">286</a> – |
| 289, 291, 293, 301, 302, 304,                     |                       |
| 312, 314, 316, 320, 321, 323,                     |                       |
| 330, 515, 588–591, 593, 595–                      |                       |
| 597, 606–609, 613–615, 620–                       |                       |
| 622, 624–626, 630, 767, 842–                      |                       |
| 844, 846, 848–850, 859–863,                       |                       |
| 867–869, 874–876, 878–880, 884                    |                       |
| style (option) . . . . .                          | <a href="#">11</a>    |
| styles:                                           |                       |
| <code>altlist</code> . . . . .                    | <a href="#">287</a>   |
| <code>altlistgroup</code> . . . . .               | <a href="#">287</a>   |
| <code>altlisthypergroup</code> . . . . .          | <a href="#">287</a>   |
| <code>altlong4col</code> . . . . .                | <a href="#">294</a>   |
| <code>altlong4col-booktabs</code> . . . . .       | <a href="#">297</a>   |
| <code>altlong4colborder</code> . . . . .          | <a href="#">294</a>   |
| <code>altlong4colheader</code> . . . . .          | <a href="#">294</a>   |
| <code>altlong4colheaderborder</code> . . . . .    | <a href="#">295</a>   |
| <code>altlongragged4col</code> . . . . .          | <a href="#">303</a>   |
| <code>altlongragged4col-booktabs</code> . . . . . | <a href="#">298</a>   |
| <code>altlongragged4colborder</code> . . . . .    | <a href="#">305</a>   |
| <code>altlongragged4colheader</code> . . . . .    | <a href="#">304</a>   |
| <code>altlongragged4colheaderborder</code>        |                       |
| . . . . .                                         | <a href="#">305</a>   |
| <code>altsuper4col</code> . . . . .               | <a href="#">317</a>   |
| <code>altsuper4colborder</code> . . . . .         | <a href="#">318</a>   |
| <code>altsuper4colheader</code> . . . . .         | <a href="#">317</a>   |
| <code>altsuper4colheaderborder</code> . . . . .   | <a href="#">318</a>   |
| <code>altsuperragged4col</code> . . . . .         | <a href="#">323</a>   |
| <code>altsuperragged4colborder</code> . . . . .   | <a href="#">324</a>   |
| <code>altsuperragged4colheader</code> . . . . .   | <a href="#">324</a>   |
| <code>altsuperragged4colheaderborder</code>       |                       |
| . . . . .                                         | <a href="#">324</a>   |
| <code>alttree</code> . . . . .                    | <a href="#">331</a>   |
| <code>alttreegroup</code> . . . . .               | <a href="#">334</a>   |
| <code>alttreehypergroup</code> . . . . .          | <a href="#">334</a>   |
| <code>index</code> . . . . .                      | <a href="#">326</a>   |
| <code>indexgroup</code> . . . . .                 | <a href="#">327</a>   |
| <code>indexhypergroup</code> . . . . .            | <a href="#">327</a>   |
| <code>inline</code> . . . . .                     | <a href="#">282</a>   |
| <code>list</code> . . . . .                       | <a href="#">285</a>   |
| <code>listdotted</code> . . . . .                 | <a href="#">288</a>   |
| <code>listgroup</code> . . . . .                  | <a href="#">286</a>   |
| <code>listhypergroup</code> . . . . .             | <a href="#">286</a>   |
| <code>long</code> . . . . .                       | <a href="#">289</a>   |
| <code>long-booktabs</code> . . . . .              | <a href="#">295</a>   |
| <code>long3col</code> . . . . .                   | <a href="#">290</a>   |
| <code>long3col-booktabs</code> . . . . .          | <a href="#">296</a>   |
| <code>long3colborder</code> . . . . .             | <a href="#">291</a>   |
| <code>long3colheader</code> . . . . .             | <a href="#">292</a>   |
| <code>long3colheaderborder</code> . . . . .       | <a href="#">292</a>   |
| <code>long4col</code> . . . . .                   | <a href="#">292</a>   |
| <code>long4col-booktabs</code> . . . . .          | <a href="#">296</a>   |
| <code>long4colborder</code> . . . . .             | <a href="#">293</a>   |
| <code>long4colheader</code> . . . . .             | <a href="#">293</a>   |
| <code>long4colheaderborder</code> . . . . .       | <a href="#">293</a>   |
| <code>longborder</code> . . . . .                 | <a href="#">290</a>   |
| <code>longheader</code> . . . . .                 | <a href="#">290</a>   |
| <code>longheaderborder</code> . . . . .           | <a href="#">290</a>   |
| <code>longragged</code> . . . . .                 | <a href="#">300</a>   |
| <code>longragged-booktabs</code> . . . . .        | <a href="#">297</a>   |
| <code>longragged3col</code> . . . . .             | <a href="#">302</a>   |
| <code>longragged3col-booktabs</code> . . . . .    | <a href="#">298</a>   |
| <code>longragged3colborder</code> . . . . .       | <a href="#">303</a>   |
| <code>longragged3colheader</code> . . . . .       | <a href="#">303</a>   |
| <code>longragged3colheaderborder</code> . . . . . | <a href="#">303</a>   |
| <code>longraggedborder</code> . . . . .           | <a href="#">301</a>   |
| <code>longraggedheader</code> . . . . .           | <a href="#">301</a>   |
| <code>longraggedheaderborder</code> . . . . .     | <a href="#">302</a>   |
| <code>mcolalmtree</code> . . . . .                | <a href="#">310</a>   |
| <code>mcolalmtreegroup</code> . . . . .           | <a href="#">310</a>   |
| <code>mcolalmtreehypergroup</code> . . . . .      | <a href="#">310</a>   |
| <code>mcolalmtreespannav</code> . . . . .         | <a href="#">311</a>   |
| <code>mcolindex</code> . . . . .                  | <a href="#">306</a>   |
| <code>mcolindexgroup</code> . . . . .             | <a href="#">306</a>   |
| <code>mcolindexhypergroup</code> . . . . .        | <a href="#">306</a>   |
| <code>mcolindexspannav</code> . . . . .           | <a href="#">307</a>   |
| <code>mcoltree</code> . . . . .                   | <a href="#">307</a>   |
| <code>mcoltreegroup</code> . . . . .              | <a href="#">308</a>   |
| <code>mcoltreehypergroup</code> . . . . .         | <a href="#">308</a>   |
| <code>mcoltreenoname</code> . . . . .             | <a href="#">308</a>   |
| <code>mcoltreenonamegroup</code> . . . . .        | <a href="#">309</a>   |
| <code>mcoltreenonamehypergroup</code> . . . . .   | <a href="#">309</a>   |
| <code>mcoltreenonamespannav</code> . . . . .      | <a href="#">309</a>   |
| <code>mcoltreespannav</code> . . . . .            | <a href="#">308</a>   |
| <code>sublistdotted</code> . . . . .              | <a href="#">288</a>   |
| <code>super</code> . . . . .                      | <a href="#">312</a>   |
| <code>super3col</code> . . . . .                  | <a href="#">314</a>   |
| <code>super3colborder</code> . . . . .            | <a href="#">314</a>   |
| <code>super3colheader</code> . . . . .            | <a href="#">315</a>   |

|                                               |                                                                                                                                                                                                                                                                                                                    |                                               |        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------|
| <code>super3colheaderborder</code>            | 315                                                                                                                                                                                                                                                                                                                | <code>superheader</code> (style)              | 313    |
| <code>super4col</code>                        | 315                                                                                                                                                                                                                                                                                                                | <code>superheaderborder</code> (style)        | 313    |
| <code>super4colborder</code>                  | 316                                                                                                                                                                                                                                                                                                                | <code>superragged</code> (style)              | 319    |
| <code>super4colheader</code>                  | 316                                                                                                                                                                                                                                                                                                                | <code>superragged3col</code> (style)          | 321    |
| <code>super4colheaderborder</code>            | 317                                                                                                                                                                                                                                                                                                                | <code>superragged3colborder</code> (style)    | 322    |
| <code>superborder</code>                      | 313                                                                                                                                                                                                                                                                                                                | <code>superragged3colheader</code> (style)    | 322    |
| <code>superheader</code>                      | 313                                                                                                                                                                                                                                                                                                                | <code>superraggedborder</code> (style)        | 320    |
| <code>superheaderborder</code>                | 313                                                                                                                                                                                                                                                                                                                | <code>superraggedheader</code> (style)        | 320    |
| <code>superragged</code>                      | 319                                                                                                                                                                                                                                                                                                                | <code>superraggedheaderborder</code> (style)  | 321    |
| <code>superragged3col</code>                  | 321                                                                                                                                                                                                                                                                                                                | <code>superraggedright3colheaderborder</code> |        |
| <code>superragged3colborder</code>            | 322                                                                                                                                                                                                                                                                                                                | (style)                                       | 322    |
| <code>superragged3colheader</code>            | 322                                                                                                                                                                                                                                                                                                                | <code>symbol</code> (key)                     | 80     |
| <code>superraggedborder</code>                | 320                                                                                                                                                                                                                                                                                                                | <code>symbolaccess</code> (key)               | 345    |
| <code>superraggedheader</code>                | 320                                                                                                                                                                                                                                                                                                                | <code>\symbolname</code>                      | 47,    |
| <code>superraggedheaderborder</code>          | 321                                                                                                                                                                                                                                                                                                                | 50, 293, 294, 297, 305, 316–                  |        |
| <code>superraggedright3colheaderborder</code> | 322                                                                                                                                                                                                                                                                                                                | 318, 324, 325, 405, 406, 610,                 |        |
| <code>tree</code>                             | 328                                                                                                                                                                                                                                                                                                                | 611, 616, 622–624, 627, 655,                  |        |
| <code>treegroup</code>                        | 329                                                                                                                                                                                                                                                                                                                | 656, 863, 865, 869, 870, 876,                 |        |
| <code>treehypergroup</code>                   | 329                                                                                                                                                                                                                                                                                                                | 877, 880, 881, 910, 912, 1065, 1067           |        |
| <code>treenoname</code>                       | 329                                                                                                                                                                                                                                                                                                                | <code>symbolplural</code> (key)               | 80     |
| <code>treenonamegroup</code>                  | 330                                                                                                                                                                                                                                                                                                                | <code>symbolpluralaccess</code> (key)         | 345    |
| <code>treenonamehypergroup</code>             | 330                                                                                                                                                                                                                                                                                                                | <code>symbols</code> (option)                 | 40     |
| <code>subentrycounter</code> (option)         | 15                                                                                                                                                                                                                                                                                                                 | <code>\sys</code>                             | 43, 44 |
| <code>\subglossentry</code>                   | 105, 219, 232, 241, 283, 286–289, 291, 293, 301, 302, 304, 312, 314, 316, 320, 321, 323, 327, 328, 330, 332, 438, 502, 508, 509, 514, 515, 605–609, 613–615, 620–622, 624–626, 628–631, 689, 754, 760, 766, 858–863, 867–869, 874–876, 878–880, 882, 883, 885, 945, 1010, 1016, 1021, 1100, 1165, 1171, 1172, 1177 |                                               |        |
| <code>\subitem</code>                         | 306, 326, 327, 592, 616, 627, 628, 845, 870, 881, 882                                                                                                                                                                                                                                                              |                                               |        |
| <code>sublistdotted</code> (style)            | 288                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>\subsubitem</code>                      | 306, 326, 327, 592, 616, 628, 845, 870, 881, 882                                                                                                                                                                                                                                                                   |                                               |        |
| <code>super</code> (style)                    | 312                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super3col</code> (style)                | 314                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super3colborder</code> (style)          | 314                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super3colheader</code> (style)          | 315                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super3colheaderborder</code> (style)    | 315                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super4col</code> (style)                | 315                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super4colborder</code> (style)          | 316                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super4colheader</code> (style)          | 316                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>super4colheaderborder</code> (style)    | 317                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>superborder</code> (style)              | 313                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>\t</code>                               | 26, 394, 644, 898, 1053                                                                                                                                                                                                                                                                                            |                                               |        |
| <code>\tablehead</code>                       | 312–325, 620–627, 874–881                                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\tabletail</code>                       | 312–325, 620–627, 874–881                                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\tabularnewline</code>                  | 289–294, 296, 297, 301–305, 312–325, 590, 591, 595, 596, 607–611, 613–616, 620–627, 844, 848, 849, 861–865, 867–870, 874–881                                                                                                                                                                                       |                                               |        |
| <code>\texorpdfstring</code>                  | 170, 208, 476, 728, 980, 1005, 1136, 1160                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\text</code>                            | 4, 5, 223, 224, 886, 887, 1041                                                                                                                                                                                                                                                                                     |                                               |        |
| <code>text</code> (key)                       | 79                                                                                                                                                                                                                                                                                                                 |                                               |        |
| <code>textaccess</code> (key)                 | 345                                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>\textbar</code>                         | 281, 604, 857, 1041                                                                                                                                                                                                                                                                                                |                                               |        |
| <code>\textbf</code>                          | 247, 325, 514, 518, 591–594, 627, 766, 770, 845–847, 881, 1024, 1180                                                                                                                                                                                                                                               |                                               |        |
| <code>\textit</code>                          | 247, 518, 770, 1024, 1180                                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\textmd</code>                          | 247, 518, 770, 1024, 1180                                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\textrm</code>                          | 247, 518, 769, 1024, 1180                                                                                                                                                                                                                                                                                          |                                               |        |
| <code>\textsc</code>                          | 248, 259, 265, 378, 518, 524, 529, 533, 536, 538, 541, 575, 770, 775, 776, 781, 786, 789, 791, 794, 828, 1024, 1030, 1031, 1035, 1180, 1186, 1191                                                                                                                                                                  |                                               |        |

|                                             |                                    |                                                   |                                     |
|---------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------------------|
| <code>\textsf</code> . . . .                | 247, 518, 770, 1024, 1180          |                                                   | 704, 749, 750, 836, 957, 958,       |
| <code>\textsl</code> . . . .                | 247, 518, 770, 1024, 1180          |                                                   | 1005, 1006, 1112, 1113, 1160, 1161  |
| <code>\textsmaller</code>                   | 259, 265, 379, 524, 529,           | <code>\theH</code> . . . . .                      | 213, 499, 751, 1007, 1163           |
|                                             | 533, 537, 538, 541, 575, 776,      | <code>\theHglossaryentry</code> . . . . .         |                                     |
|                                             | 781, 786, 789, 791, 794, 828,      |                                                   | 14, 388, 637, 892, 1046             |
|                                             | 1030, 1031, 1036, 1186, 1187, 1191 | <code>\theHglossarysubentry</code> . . . . .      |                                     |
| <code>\texttt</code> . . . .                | 247, 518, 770, 1024, 1180          |                                                   | 15, 388, 638, 892, 1047             |
| <code>\textulc</code> . . .                 | 249, 518, 770, 1025, 1181          | <code>\theHglentrycounter</code> . . . . .        |                                     |
| <code>\textup</code> . . . . .              | 248, 249,                          |                                                   | 128, 129, 209, 212, 453,            |
|                                             | 518, 770, 1024, 1025, 1180, 1181   |                                                   | 454, 497, 498, 704, 749, 750,       |
| <code>\TH</code> . . . . .                  | 27, 395, 645, 899, 1054            |                                                   | 958, 1005, 1006, 1113, 1160, 1161   |
| <code>\th</code> . . . . .                  | 27, 395, 645, 899, 1054            | <code>\thepage</code> . . . . .                   | 138, 1121                           |
| <code>\the</code> . . . . .                 | 46, 49, 59, 64, 66, 76,            | <code>\thesection</code> . . .                    | 46, 404, 654, 910, 1065             |
|                                             | 132–137, 184, 188, 190–192,        | <code>\this@dialect</code>                        | 49, 50, 335, 336, 406,              |
|                                             | 204–206, 211, 216, 232, 246,       |                                                   | 581, 598, 656, 834, 851, 912, 1066  |
|                                             | 247, 254, 255, 257, 258, 263,      | <code>\tiny</code> . . . . .                      | 8, 385, 634, 888, 1043              |
|                                             | 264, 371, 375, 377, 380, 404,      | <code>\tl</code> . . . . .                        | 5, 44, 107, 138,                    |
|                                             | 406, 411, 414, 416, 420, 455–      |                                                   | 221–224, 887, 1041, 1101, 1121      |
|                                             | 460, 481, 484, 486, 487, 495,      | <code>toc (option)</code> . . . . .               | <u>10</u>                           |
|                                             | 496, 498, 501, 508, 513, 514,      | <code>\toks@</code> . . . . .                     | 46, 49, 59, 64, 66, 76,             |
|                                             | 517, 520–523, 527, 528, 530–       |                                                   | 131–137, 190–192, 216, 246,         |
|                                             | 541, 543, 547, 568, 569, 572,      |                                                   | 247, 404–406, 411, 414, 416,        |
|                                             | 573, 576–580, 582, 583, 586,       |                                                   | 420, 455–460, 485–487, 501,         |
|                                             | 655, 656, 661, 665, 666, 670,      |                                                   | 513, 514, 517, 547, 582, 655,       |
|                                             | 706–712, 733, 736–739, 747,        |                                                   | 656, 661, 665, 666, 670, 706–       |
|                                             | 748, 750, 753, 760, 765, 766,      |                                                   | 712, 737–739, 753, 765, 766,        |
|                                             | 769, 772–775, 778, 780, 782–       |                                                   | 769, 800, 835, 910, 911, 917,       |
|                                             | 786, 788, 790, 792–794, 796,       |                                                   | 920, 922, 926, 960–965, 992,        |
|                                             | 797, 800, 821, 822, 825, 826,      |                                                   | 994, 1008, 1023, 1024, 1065,        |
|                                             | 829–833, 835, 837, 839, 910,       |                                                   | 1066, 1071, 1075, 1076, 1081,       |
|                                             | 911, 917, 920, 922, 926, 960–      |                                                   | 1115–1120, 1148–1150, 1164, 1179    |
|                                             | 965, 987, 990, 992, 994, 1002,     | <code>\toprule</code> . . . . .                   | 296, 297, 611, 864, 865             |
|                                             | 1003, 1005, 1008, 1016, 1024,      | <code>\TrackIfKnownLanguage</code> .              | 48, 911, 1066                       |
|                                             | 1027–1030, 1033, 1034, 1065,       | <code>\trans@languages</code> . . . . .           |                                     |
|                                             | 1066, 1071, 1075, 1076, 1081,      |                                                   | 49, 405, 655, 911, 1066             |
|                                             | 1115–1120, 1143, 1146, 1148–       | <code>\translate</code> . . . . .                 | 49, 50,                             |
|                                             | 1150, 1158, 1159, 1161, 1164,      |                                                   | 406, 656, 657, 911, 912, 1066, 1067 |
|                                             | 1171, 1179, 1183–1185, 1189, 1190  | <code>translate (option)</code> . . . . .         | <u>30</u>                           |
| <code>\the@numberlist</code> . . . . .      |                                    | <code>\translatelet</code> .                      | 19, 20, 40, 41, 390,                |
|                                             | 179, 180, 479, 730, 731, 985, 1141 |                                                   | 391, 402, 403, 640, 641, 653,       |
| <code>\theglossary</code> . .               | 6, 383, 633, 887, 1042             |                                                   | 894, 895, 908, 1049, 1050, 1063     |
| <code>theglossary (env.)</code> . . . . .   | <u>239</u>                         | <code>tree (style)</code> . . . . .               | <u>328</u>                          |
| <code>\theglossaryentry</code>              | 14, 238, 388, 512,                 | <code>treegroup (style)</code> . . . . .          | <u>329</u>                          |
|                                             | 637, 764, 892, 1020, 1046, 1175    | <code>treehypergroup (style)</code> . . . . .     | <u>329</u>                          |
| <code>\theglossarysubentry</code> . . . . . |                                    | <code>treenoname (style)</code> . . . . .         | <u>329</u>                          |
|                                             | 15, 238, 388, 513,                 | <code>treenonamegroup (style)</code> . . . . .    | <u>330</u>                          |
|                                             | 638, 764, 892, 1020, 1047, 1176    | <code>treenonamehypergroup (style)</code> . . . . | <u>330</u>                          |
| <code>\theHglentrycounter</code>            | 128, 129, 209,                     | <code>\triangleright</code>                       | 8, 385, 634, 888, 1043              |
|                                             | 211, 212, 453, 497, 498, 583,      | <code>\ttfamily</code> . . . .                    | 8, 385, 634, 888, 1043              |
|                                             |                                    | <code>\TX@trial</code> . . .                      | 108, 439, 690, 947, 1102            |



|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type (key) . . . . .                               | <a href="#">80</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\warn@noprintglossary</code> .              | 199–201,<br><a href="#">216</a> , <a href="#">219</a> , <a href="#">491–493</a> , <a href="#">501</a> , <a href="#">502</a> ,<br><a href="#">743–745</a> , <a href="#">753</a> , <a href="#">754</a> , <a href="#">998–1000</a> ,<br><a href="#">1008</a> , <a href="#">1010</a> , <a href="#">1154</a> , <a href="#">1155</a> , <a href="#">1164</a> , <a href="#">1166</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\typeout</code> . . . . .                    | <a href="#">23</a> , <a href="#">392</a> , <a href="#">642</a> , <a href="#">896</a> , <a href="#">1051</a>                                                                                                                                                                                                                                                                                                                        | <code>\write</code> . . . . .                     | <a href="#">36</a> , <a href="#">44</a> , <a href="#">89</a> , <a href="#">114</a> , <a href="#">184–</a><br><a href="#">189</a> , <a href="#">201</a> , <a href="#">205</a> , <a href="#">220</a> , <a href="#">400</a> , <a href="#">427</a> ,<br><a href="#">428</a> , <a href="#">443</a> , <a href="#">481–485</a> , <a href="#">489</a> , <a href="#">490</a> ,<br><a href="#">493</a> , <a href="#">496</a> , <a href="#">503</a> , <a href="#">583–587</a> , <a href="#">650</a> ,<br><a href="#">678</a> , <a href="#">693</a> , <a href="#">694</a> , <a href="#">733–737</a> , <a href="#">741</a> ,<br><a href="#">742</a> , <a href="#">745</a> , <a href="#">747</a> , <a href="#">755</a> , <a href="#">837–840</a> ,<br><a href="#">905</a> , <a href="#">934</a> , <a href="#">950</a> , <a href="#">951</a> , <a href="#">987–991</a> ,<br><a href="#">995–998</a> , <a href="#">1000</a> , <a href="#">1003</a> , <a href="#">1010</a> ,<br><a href="#">1011</a> , <a href="#">1060</a> , <a href="#">1089</a> , <a href="#">1105</a> , <a href="#">1143–</a><br><a href="#">1147</a> , <a href="#">1151–1153</a> , <a href="#">1155</a> , <a href="#">1158</a> , <a href="#">1166</a> |
| <b>U</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\u</code> . . . . .                          | <a href="#">26</a> , <a href="#">394</a> , <a href="#">644</a> , <a href="#">898</a> , <a href="#">1053</a>                                                                                                                                                                                                                                                                                                                        | <code>writeglslabelnames (option)</code> . . . .  | <a href="#">36</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>\uccode</code> . . . . .                     | <a href="#">231</a> , <a href="#">508</a> , <a href="#">760</a> , <a href="#">1015</a> , <a href="#">1171</a>                                                                                                                                                                                                                                                                                                                      | <code>writeglslabels (option)</code> . . . . .    | <a href="#">36</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>ucmark (option)</code> . . . . .             | <a href="#">14</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\writeist</code> . . . . .                  | <a href="#">184</a> ,<br><a href="#">193</a> , <a href="#">194</a> , <a href="#">481</a> , <a href="#">484</a> , <a href="#">485</a> , <a href="#">488</a> ,<br><a href="#">583</a> , <a href="#">586</a> , <a href="#">587</a> , <a href="#">733</a> , <a href="#">735</a> , <a href="#">737</a> ,<br><a href="#">740</a> , <a href="#">837</a> , <a href="#">839</a> , <a href="#">840</a> , <a href="#">987</a> , <a href="#">990</a> ,<br><a href="#">991</a> , <a href="#">995</a> , <a href="#">1143</a> , <a href="#">1146</a> , <a href="#">1147</a> , <a href="#">1150</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\undef</code> . . . . .                      | <a href="#">82</a> , <a href="#">88</a> , <a href="#">216</a> ,<br><a href="#">423</a> , <a href="#">427</a> , <a href="#">501</a> , <a href="#">674</a> , <a href="#">678</a> , <a href="#">753</a> ,<br><a href="#">930</a> , <a href="#">934</a> , <a href="#">1008</a> , <a href="#">1084</a> , <a href="#">1088</a> , <a href="#">1164</a>                                                                                    | <b>X</b>                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\unexpanded</code> . . . . .                 | <a href="#">42</a> , <a href="#">909</a> , <a href="#">1063</a>                                                                                                                                                                                                                                                                                                                                                                    | <code>\x</code> . . . . .                         | <a href="#">517</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\unskip</code> . . . . .                     | <a href="#">97</a> , <a href="#">288</a> , <a href="#">433</a> ,<br><a href="#">589</a> , <a href="#">607</a> , <a href="#">684</a> , <a href="#">842</a> , <a href="#">860</a> , <a href="#">940</a> , <a href="#">1095</a>                                                                                                                                                                                                       | <code>\xatlevel@</code> . . . . .                 | <a href="#">128</a> , <a href="#">453</a> , <a href="#">704</a> , <a href="#">957</a> , <a href="#">1112</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <code>\unvbox</code> . . . . .                     | <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                              | <code>\xcapitalisewords</code> . . . . .          | <a href="#">476</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>\use</code> . . . . .                        | <a href="#">225</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\xdef</code> . . . . .                      | <a href="#">101</a> , <a href="#">435</a> , <a href="#">437</a> ,<br><a href="#">502</a> , <a href="#">603</a> , <a href="#">686</a> , <a href="#">856</a> , <a href="#">857</a> , <a href="#">942</a> , <a href="#">1097</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>\usedictionary</code> . . . . .              | <a href="#">49</a> , <a href="#">405</a> , <a href="#">656</a> , <a href="#">911</a> , <a href="#">1066</a>                                                                                                                                                                                                                                                                                                                        | <code>\xglsaccsupp</code> . . . . .               | <a href="#">353</a> , <a href="#">353</a> , <a href="#">552</a> , <a href="#">553</a> , <a href="#">806</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <code>\usepackage</code> . . . . .                 | . . . . .<br><a href="#">27</a> , <a href="#">228</a> , <a href="#">229</a> , <a href="#">249</a> , <a href="#">382</a> , <a href="#">383</a> ,<br><a href="#">506</a> , <a href="#">507</a> , <a href="#">758</a> , <a href="#">759</a> , <a href="#">899</a> , <a href="#">1013</a> ,<br><a href="#">1014</a> , <a href="#">1025</a> , <a href="#">1054</a> , <a href="#">1169</a> , <a href="#">1170</a> , <a href="#">1180</a> | <code>\xglsfieldaccsupp</code> . . . . .          | <a href="#">352</a> , <a href="#">552</a> , <a href="#">805</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>user1 (key)</code> . . . . .                 | <a href="#">82</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\xifinlist</code> . . . . .                 | <a href="#">87</a> , <a href="#">677</a> , <a href="#">933</a> , <a href="#">1088</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>user1access (key)</code> . . . . .           | <a href="#">346</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\xifinlistcs</code> . . . . .               | <a href="#">225</a> ,<br><a href="#">226</a> , <a href="#">229</a> , <a href="#">504</a> , <a href="#">507</a> , <a href="#">755</a> , <a href="#">756</a> ,<br><a href="#">759</a> , <a href="#">1011</a> , <a href="#">1012</a> , <a href="#">1014</a> , <a href="#">1167</a> , <a href="#">1170</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>user2 (key)</code> . . . . .                 | <a href="#">82</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>xindy (option)</code> . . . . .             | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>user2access (key)</code> . . . . .           | <a href="#">346</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <code>xindygloss (option)</code> . . . . .        | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>user3 (key)</code> . . . . .                 | <a href="#">82</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>xindynoglsnumbers (option)</code> . . . . . | <a href="#">34</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <code>user3access (key)</code> . . . . .           | <a href="#">346</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\xmakefirstuc</code> . . . . .              | . . . . .<br><a href="#">444–446</a> , <a href="#">450</a> , <a href="#">474</a> , <a href="#">475</a> ,<br><a href="#">599</a> , <a href="#">695–697</a> , <a href="#">701</a> , <a href="#">726</a> , <a href="#">727</a> , <a href="#">852</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <code>user4 (key)</code> . . . . .                 | <a href="#">83</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\xspace</code> . . . . .                    | <a href="#">248</a> , <a href="#">518</a> , <a href="#">770</a> , <a href="#">1024</a> , <a href="#">1180</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <code>user4access (key)</code> . . . . .           | <a href="#">347</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Y</b>                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>user5 (key)</code> . . . . .                 | <a href="#">83</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\year</code> . . . . .                      | <a href="#">184</a> ,<br><a href="#">188</a> , <a href="#">481</a> , <a href="#">484</a> , <a href="#">583</a> , <a href="#">586</a> , <a href="#">733</a> ,<br><a href="#">736</a> , <a href="#">837</a> , <a href="#">839</a> , <a href="#">987</a> , <a href="#">990</a> , <a href="#">1143</a> , <a href="#">1146</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>user5access (key)</code> . . . . .           | <a href="#">347</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Z</b>                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>user6 (key)</code> . . . . .                 | <a href="#">83</a>                                                                                                                                                                                                                                                                                                                                                                                                                 | <code>\Z</code> . . . . .                         | <a href="#">243</a> , <a href="#">1021</a> , <a href="#">1177</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <code>user6access (key)</code> . . . . .           | <a href="#">347</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <code>\z@</code> . . . . .                        | <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>\UTFviii@two@octets</code> . . . . .         | . . . . .<br><a href="#">27</a> , <a href="#">395</a> , <a href="#">645</a> , <a href="#">899</a> , <a href="#">1054</a>                                                                                                                                                                                                                                                                                                           |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\UTFviii@two@octets@combine</code> . . . . . | . . . . .<br><a href="#">27</a> , <a href="#">395</a> , <a href="#">645</a> , <a href="#">899</a> , <a href="#">1054</a>                                                                                                                                                                                                                                                                                                           |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>V</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\v</code> . . . . .                          | <a href="#">26</a> , <a href="#">395</a> , <a href="#">644</a> , <a href="#">899</a> , <a href="#">1053</a>                                                                                                                                                                                                                                                                                                                        |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\value</code> . . . . .                      | <a href="#">107</a> , <a href="#">946</a> , <a href="#">1101</a>                                                                                                                                                                                                                                                                                                                                                                   |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\vbox</code> . . . . .                       | <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                              |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\vsize</code> . . . . .                      | <a href="#">299</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                                                    |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\vskip</code> . . . . .                      | <a href="#">285</a> , <a href="#">299</a> , <a href="#">306</a> , <a href="#">325</a> , <a href="#">606</a> ,<br><a href="#">612</a> , <a href="#">616</a> , <a href="#">627</a> , <a href="#">859</a> , <a href="#">866</a> , <a href="#">870</a> , <a href="#">881</a>                                                                                                                                                           |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\vss</code> . . . . .                        | <a href="#">299</a> , <a href="#">612</a> , <a href="#">613</a> , <a href="#">866</a>                                                                                                                                                                                                                                                                                                                                              |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>W</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <code>\warn@nomakeglossaries</code> . . . . .      | . . . . .<br><a href="#">197</a> , <a href="#">199–201</a> , <a href="#">491–493</a> ,<br><a href="#">742–745</a> , <a href="#">997–1000</a> , <a href="#">1153–1156</a>                                                                                                                                                                                                                                                           |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |