

Hypertext marks in L^AT_EX

Sebastian Rahtz

Email: [sebastian.rahtz at oucs.ox.ac.uk](mailto:sebastian.rahtz@oucs.ox.ac.uk)

Heiko Oberdiek (maintainer)

Email: [heiko.oberdiek at googlemail.com](mailto:heiko.oberdiek@gmail.com)

? ?

1 Documentation overview for hyperref

The documentation for package `hyperref` consists of several files:

Manual The **USER MANUAL** (also available as HTML).

README The **README** file (also available as text file). Here information is collected that is not yet in the manual: new features, package compatibility, limitations, known problems, ...


ChangeLog This file records the version history (also available as text file).

Options This file provides a short option summary.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT_EX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

 **hyperref.dtx** This is the source code documentation for hyperref (this file).

backref.dtx “Back referencing from bibliographical citations”

nameref.dtx “Section name references in L^AT_EX”

2 Contents

1	Documentation overview for hyperref	1
2	Contents	2
3	File hyccheck.tex	8
4	Package options and setup	12
4.1	LuaTeX compatibility	12
4.2	Save catcodes	12
4.3	Version check	15
4.4	Checks with regular expressions	16
4.5	Compatibility with format dumps	17
4.6	Switches	18
5	Common help macros	20
5.1	Macros for recursions	20
5.2	Babel's protection of shorthand characters	20
5.3	Coordinate transformations	21
6	Dealing with PDF strings	22
6.1	Description of PDF strings	22
6.2	Definition of \pdfstringdef	23
6.2.1	Preprocessing	23
6.2.2	Expansion	30
6.2.3	Postprocessing	31
6.3	Encodings	36
6.3.1	XeTeX	36
6.3.2	Workaround for package linguex	38
6.3.3	Catcodes saving and restoring for .def files	38
6.3.4	PD1 encoding	39
6.3.5	PU encoding	40
6.4	Additional user commands	40
6.4.1	\texorpdfstring	40
6.4.2	Hooks for \pdfstringdef	41
6.5	Help macros for expansion	42
6.5.1	\ignorespaces	42
6.5.2	Babel languages	42
6.5.3	CJK patch	48
6.5.4	CJK bookmarks	49
6.5.5	CJK unicode	51
6.5.6	\@inmathwarn-Patch	56
6.5.7	Unexpandable spaces	57
6.5.8	Marker for commands	58
6.5.9	\hspace fix	58

6.5.10	Fix for AMS classes	58
6.5.11	Reference commands	59
6.5.12	Redefining the defining commands	61
6.5.13	<code>\ifnextchar</code>	63
6.5.14	<code>\@protected@testoptifnextchar</code>	63
6.6	Help macros for postprocessing	63
6.6.1	Generic warning.	63
6.6.2	Protecting spaces	63
6.6.3	Remove grouping braces	65
6.6.4	Catcode check	66
6.6.5	Check for wrong glyphs	70
6.6.6	Replacing tokens	71
6.6.7	Support for package <code>xspace</code>	73
6.6.8	Converting to Unicode	73
6.6.9	Support for UTF-8 input encoding	76
6.6.10	Support for die faces (ifsym et. al.)	80
6.6.11	Support for moon phases of package <code>china2e</code>	81
6.6.12	Support for package <code>pifont</code>	81
7	Support of other packages	83
7.1	Class memoir	83
7.2	Package subfigure	83
7.3	Package xr and xr-hyper	84
8	Help macros for links	84
9	Options	86
9.1	Help macros	87
9.2	Defining the options	89
10	Options for different drivers	94
11	Options to add extra features	98
12	Language options	100
13	Options to change appearance of links	107
14	Bookmarking	108
15	PDF-specific options	111
15.1	Package <code>xspace</code> support	126
15.2	Option draft	127
15.3	PDF/A	127
15.4	Patch for babel's <code>\texttilde</code>	128
15.4.1	Driver loading	130
15.4.2	Bookmarks	134

16 User hypertext macros	138
16.1 Link box support for XeTeX	144
17 Underlying basic hypertext macros	145
18 Option ‘destlabel’	150
19 Compatibility with the <i>LaTeX2html</i> package	152
20 Forms creation	153
20.1 Field flags	153
20.1.1 Declarations of field flags	155
20.1.2 Set submit flags	157
20.1.3 Set annot flags in fields	158
20.1.4 Pushbutton field	159
20.1.5 Check box field	159
20.1.6 Radio button field	159
20.1.7 Text fields	160
20.1.8 Choice fields	161
20.2 Choice field	161
20.3 Forms	163
21 Setup	172
22 Low-level utility macros	173
23 Localized nullifying of package	174
24 Package nohyperref	175
25 The Mangling Of Aux and Toc Files	176
26 Title strings	178
27 Page numbers	179
28 Every page	179
28.1 PDF /PageLabels	180
28.1.1 pdfTeX and VTeX	184
28.1.2 xetex	186
28.1.3 pdfmarkbase, dvipdfm, xetex	187
29 Automated LaTeX hypertext cross-references	188
30 Package lastpage support	195
31 Package ifthen support	197

32 Package titlesec and titletoc support	197
33 Package varioref support	198
34 Package longtable support	198
35 Equations	199
36 Footnotes	205
37 Float captions	210
38 Bibliographic references	213
38.1 Package harvard	217
38.2 Package chicago	219
39 Page numbers	220
40 Table of contents	222
41 New counters	224
42 AMSIAT_EX compatibility	224
42.1 \@addtoreset and \numberwithin patches	226
43 Included figures	227
44 hyperindex entries	227
45 Compatibility with foiltex	231
46 Compatibility with seminar slide package	231
47 Configuration files	241
47.1 PS/PDF strings	241
47.2 pdftex	242
47.2.1 Fix for problem with different nesting levels	259
47.3 hypertex	259
47.4 dviwindo	262
47.5 dvipdfm/xetex dvi to PDF converter	268
47.6 VTeX typesetting system	279
47.7 Fix for Adobe bug number 466320	293
47.8 Direct pdfmark support	294
47.9 Rokicki's dvips	310
47.10 VTeX's vtexpdfmark driver	313
47.11 Textures	314
47.12 dvipsone	319
47.13 TeX4ht	323

48 Driver-specific form support	326
48.1 pdfmarks	326
48.2 HyperTeX	335
48.3 TeX4ht	336
48.4 pdfTeX	339
48.5 dvipdfm, xetex	349
48.6 Common forms part	357
49 Bookmarks in the PDF file	366
49.1 Bookmarks	366
49.1.1 Rerun warning	370
49.1.2 Driver stuff	370
50 Compatibility with koma-script classes	377
51 Encoding definition files for encodings of PDF strings	378
51.1 PD1 encoding	378
51.2 PU encoding	387
51.2.1 NFSS2 accents	387
51.2.2 Basic Latin: U+0000 to U+007F	390
51.2.3 Latin-1 Supplement: U+0080 to U+00FF	392
51.2.4 Latin Extended-A: U+0080 to U+017F	396
51.2.5 Latin Extended-B: U+0180 to U+024F	402
51.2.6 IPA Extensions: U+0250 to U+02AF	407
51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF	413
51.2.8 Combining Diacritical Marks: U+0300 to U+036F	414
51.2.9 Greek and Coptic: U+0370 to U+03FF	415
51.2.10 Cyrillic: U+0400 to U+04FF	418
51.2.11 Hebrew: U+0590 to U+05FF	430
51.2.12 Thai: U+0E00 to U+0E7F	431
51.2.13 Phonetic Extensions: U+1D00 to U+1D7F	431
51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF	432
51.2.15 Latin Extended Additional: U+1E00 to U+1EFF	433
51.2.16 General Punctuation: U+2000 to U+206F	439
51.2.17 Superscripts and Subscripts: U+2070 to U+209F	441
51.2.18 Currency Symbols: U+20A0 to U+20CF	443
51.2.19 Letterlike Symbols: U+2100 to U+214F	443
51.2.20 Number Forms: U+2150 to U+218F	444
51.2.21 Arrows: U+2190 to U+21FF	445
51.2.22 Mathematical Operators: U+2200 to U+22FF	449
51.2.23 Miscellaneous Technical: U+2300 to U+23FF	461
51.2.24 Control Pictures: U+2400 to U+243F	462
51.2.25 Optical Character Recognition: U+2440 to U+245F	462
51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF	463
51.2.27 Box Drawing: U+2500 to 257F	466
51.2.28 Geometric Shapes: U+25A0 to U+25FF	466

51.2.29 Miscellaneous Symbols: U+2600 to U+26FF	467
51.2.30 Dingbats: U+2700 to U+27BF	471
51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	475
51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF	475
51.2.33 Supplemental Arrows-B: U+2900 to U+297F	476
51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF	478
51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF	479
51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF .	482
51.2.37 Latin Extended-C: U+2C60 to U+2C7F	482
51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F	483
51.2.39 Modifier Tone Letters: U+A700 to U+A71F	483
51.2.40 Latin Extended-D: U+A720 to U+A7FF	483
51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F . . .	483
51.2.42 Musical Symbols: U+1D100 to U+1D1FF	483
51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF	484
51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF . . .	484
51.2.45 Miscellaneous	484
51.2.46 Aliases	485
51.3 PU encoding, additions for VnT _E X	485
51.4 PU encoding, additions for Arabi	488

52 End of file hycheck.tex

515

3 File hyccheck.tex

Many commands of L^AT_EX or other packages cannot be overloaded, but have to be redefined by hyperref directly. If these commands change in newer versions, these changes are not noticed by hyperref. With this test file this situation can be checked. It defines the command `\checkcommand` that is more powerful than L^AT_EX's `\CheckCommand`, because it takes `\DeclareRobustCommand` and optional parameters better into account.

```
1 \langle *check\rangle
2 \documentclass{article}
3 \makeatletter
```

`\checklatex` Optional argument: release date of L^AT_EX.

```
4 \newcommand*{\checklatex}[1]{}{
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }
```

`\checkpackage` The argument of `\checkpackage` is the package name without extension optionally followed by a release date.

```
9 \newcommand*{\checkpackage}[1]{
10   \def\HyC@package{#1}%
11   \let\HyC@date\@empty
12   \@ifnextchar[\HyC@getDate\HyC@checkPackage
13 }
```

`\HyC@getDate` The release date is scanned.

```
14 \def\HyC@getDate[#1]{
15   \def\HyC@date{#1}%
16   \HyC@checkPackage
17 }
```

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19   \typeout{}%
20   \begingroup
21   \edef\x{\endgroup
22     \noexpand\RequirePackage{\HyC@package}%
23     \ifx\HyC@date\@empty\relax\else\HyC@date\fi%
24   }%
25   \x
26   \typeout{}%
27   \typeout{%
28     * Package '\HyC@package'%
29     \ifx\HyC@date\@empty
30     \else
31       \space\HyC@date
```



```

32 \fi
33 }%
34 \@ifundefined{ver@\HyC@package.sty}{%
35 }{%
36 \typeout{%
37 \space\space Loaded: '\HyC@package' %
38 \csname ver@\HyC@package.sty\endcsname
39 }%
40 }%
41 }

```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a \LaTeX definition and compares this definition with the current meaning of that command.

```

42 \newcommand*{\checkcommand}[1]{%
43 \begingroup
44 \ifx\long#1\relax
45 \expandafter\HyC@checklong
46 \else
47 \def\HyC@defcmd{#1}%
48 \expandafter\let\expandafter\HyC@next
49 \csname HyC@\expandafter\@gobble\string#1\endcsname
50 \expandafter\HyC@checkcommand
51 \fi
52 }

```

`\HyC@checklong` The definition command `\def` or `\edef` is read.

```

53 \def\HyC@checklong#1{%
54 \def\HyC@defcmd{\long#1}%
55 \expandafter\let\expandafter\HyC@next
56 \csname HyC@\expandafter\@gobble\string#1\endcsname
57 \HyC@checkcommand
58 }

```

`\HyC@checkcommand` The optional star of \LaTeX 's definitions is parsed.

```

59 \def\HyC@checkcommand{%
60 \ifx\HyC@next\relax
61 \PackageError{hycheck}{%
62 Unknown command '\expandafter\strip@prefix\meaning\HyC@cmd'%
63 }\@ehd
64 \expandafter\endinput
65 \fi
66 \@ifstar{%
67 \def\HyC@star{*}%
68 \HyC@check
69 }{%
70 \let\HyC@star\@empty
71 \HyC@check
72 }%
73 }

```

`\HyC@check` The macro `\HyC@check` reads the definition command.

```

74 \def\HyC@check#1{%
75   \def\HyC@cmd{#1}%
76   \let\HyC@org@cmd#1%
77   \let#1\relax
78   \let\HyC@param\@empty
79   \HyC@Toks{}%
80   \let\HyC@org@optcmd\HyC@noValue
81   \let\HyC@org@robustcmd\HyC@noValue
82   \let\HyC@org@robustoptcmd\HyC@noValue
83   \HyC@next
84 }

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```

`\HyC@newcommand` The code for `\newcommand`.

```

86 \def\HyC@newcommand{%
87   \let\HyC@@cmd\HyC@cmd
88   \@ifnextchar[\HyC@nc@opt\HyC@nc@noopt
89 }

```

`\HyC@Toks` A register for storing the default value of an optional argument.

```

90 \newtoks\HyC@Toks

```

`\HyC@nc@noopt` This macro `\HyC@nc@noopt` is called, if the parser has reached the definition text.

```

91 \long\def\HyC@nc@noopt#1{%
92   \edef\x{%
93     \expandafter\noexpand\HyC@defcmd
94     \HyC@star
95     \expandafter\noexpand\HyC@cmd
96     \HyC@param\the\HyC@Toks
97   }%
98   \x{#1}%
99   \HyC@doCheck
100 }

```

`\HyC@nc@opt` This macro scans the first optional argument of a \LaTeX definition (number of arguments).

```

101 \def\HyC@nc@opt[#1]{%
102   \def\HyC@param{{#1}}%
103   \@ifnextchar[\HyC@nc@default\HyC@nc@noopt
104 }

```

`\HyC@nc@default` Macro `\HyC@nc@default` scans the default for an optional argument.

```

105 \def\HyC@nc@default[#1]{%
106   \HyC@Toks={{#1}}%

```

```

107 \edef\HyC@optcmd{%
108   \expandafter\noexpand
109   \csname\expandafter\string\HyC@@cmd\endcsname
110 }%
111 \expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd
112 \HyC@nc@noopt
113 }

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\cmd_` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

114 \def\HyC@DeclareRobustCommand{%
115   \edef\HyC@robustcmd{%
116     \expandafter\noexpand
117     \csname\expandafter\expandafter\expandafter\@gobble
118     \expandafter\string\HyC@cmd\space\endcsname
119   }%
120   \expandafter\let\expandafter\HyC@org@robustcmd\HyC@robustcmd
121   \expandafter\let\HyC@robustcmd\relax
122   \let\HyC@@cmd\HyC@robustcmd
123   \ifnextchar[\HyC@nc@opt\HyC@nc@noopt
124 }

```

`\HyC@def` The parameter text of `\def` or `\edef` is stored in the token register `\HyC@Toks`.

```

\HyC@edef
125 \def\HyC@def#1#{%
126   \HyC@Toks={#1}%
127   \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

`\HyC@doCheck` This command performs the checks and prints the result.

```

130 \def\HyC@doCheck{%
131   \typeout{* Checking '\HyC@string\HyC@cmd':}%
132   \HyC@checkItem{cmd}%
133   \HyC@checkItem{robustcmd}%
134   \HyC@checkItem{optcmd}%
135   \HyC@checkItem{robustoptcmd}%
136   \endgroup
137 }

```

`\HyC@checkItem` A single check.

```

138 \def\HyC@checkItem#1{%
139   \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
140   \else
141     \expandafter\expandafter\expandafter\ifx
142     \csname HyC@#1\expandafter\endcsname
143     \csname HyC@org@#1\endcsname
144     \expandafter\HyC@checkOk\csname HyC@#1\endcsname

```

```

145 \else
146 \expandafter\HyC@checkFailed
147 \csname HyC@#1\expandafter\endcsname
148 \csname HyC@org@#1\endcsname
149 \fi
150 \fi
151 }

\HyC@string Some shorthands.
\HyC@meaning 152 \def\HyC@string#1{\expandafter\string#1}
153 \def\HyC@meaning#1{\expandafter\meaning#1}

\HyC@checkOk The result, if the check succeeds.
154 \def\HyC@checkOk#1{%
155 \typeout{\space\space'\HyC@string#1' ok.}%
156 }

\HyC@checkFailed The result, if the check fails.
157 \def\HyC@checkFailed#1#2{%
158 \typeout{\space\space'\HyC@string#1' failed.}%
159 \typeout{\space\space* original: \meaning#2}%
160 \typeout{\space\space* expected: \HyC@meaning#1}%
161 }

162 % *****
163 </check>
164 <*package>

```

4 Package options and setup

4.1 LuaTeX compatibility

Until a LuaTeX driver is written, load `luatex85` so that the `pdfTeX` driver continues to work with LuaTeX.

```

165 \ifx\directlua\@undefined\else
166 \RequirePackage{luatex85}
167 \fi

```

4.2 Save catcodes

There are many packages that change the standard catcodes.

First we save the original meaning of ‘ and = in the token register `\toks@`, because we need the two characters in the macros `\Hy@SetCatcodes` and `\Hy@RestoreCatcodes`.

```

168 \begingroup
169 \@makeother\'%
170 \@makeother\=%

```

```

171 \edef\x{%
172   \edef\noexpand\x{%
173     \endgroup
174     \noexpand\toks@{%
175       \catcode 96=\noexpand\the\catcode'\noexpand'\relax
176       \catcode 61=\noexpand\the\catcode'\noexpand\=\relax
177     }%
178   }%
179   \noexpand\x
180 }%
181 \x
182 \@makeother\`
183 \@makeother\=

```

\Hy@SetCatcodes

```

184 \def\Hy@SetCatcodes{%
185   \@makeother\`%
186   \@makeother\=%
187   \catcode'\$=3 %
188   \catcode'\&=4 %
189   \catcode'\^=7 %
190   \catcode'\_ =8 %
191   \@makeother\| %
192   \@makeother\: %
193   \@makeother\(%
194   \@makeother\)%
195   \@makeother\[ %
196   \@makeother\] %
197   \@makeother\/ %
198   \@makeother\! %
199   \@makeother\< %
200   \@makeother\> %
201   \@makeother\. %
202   \@makeother\; %
203   \@makeother\+ %
204   \@makeother\- %
205   \@makeother\" %
206   \@makeother\' %
207 }

```

\Hy@RestoreCatcodes

```

208 \begingroup
209 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
210 \xdef\Hy@RestoreCatcodes{%
211   \the\toks@
212   \x\$%
213   \x\&%
214   \x\^%
215   \x\_%
216   \x\| %

```

```

217 \x\:%
218 \x\(%
219 \x\)%
220 \x\[%
221 \x\]%
222 \x\/%
223 \x\!%
224 \x\<%
225 \x\>%
226 \x\.%
227 \x\;%
228 \x\+%
229 \x\-%
230 \x\"%
231 \x\'%
232 }%
233 \endgroup

```

```

234 \Hy@SetCatcodes

```

It needs the December 95 release of L^AT_EX, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

Use package `hobsub-hyperref` for faster package loading.

```

235 \IfFileExists{hobsub-hyperref.sty}{%
236 \RequirePackage{hobsub-hyperref}[2011/01/30]%
237 }{}

238 \RequirePackage{ltxcmds}[2010/11/12]
239 \RequirePackage{ifpdf}[2006/02/20]
240 \RequirePackage{pdftexcmds}[2009/04/10]
241 \@ifpackagelater{pdftexcmds}{2010/11/04}{-}{-}{%
242 \ltx@ifundefined{pdfdraftmode}{%
243 \let\pdf@ifdraftmode\ltx@secondoftwo
244 }{%
245 \ifpdf
246 \def\pdf@ifdraftmode{%
247 \ifnum\pdfdraftmode=\ltx@one
248 \expandafter\ltx@firstoftwo
249 \else
250 \expandafter\ltx@secondoftwo
251 \fi
252 }%
253 \else
254 \let\pdf@ifdraftmode\ltx@secondoftwo
255 \fi
256 }%
257 }

258 \RequirePackage{infwarerr}[2010/04/08]
259 \RequirePackage{keyval}[1997/11/10]

```

```

260 \RequirePackage{kvsetkeys}[2007/09/29]
261 \RequirePackage{kvdefinekeys}[2011/04/07]
262 \RequirePackage{pdfescape}[2007/11/11]
263 \RequirePackage{ifvtex}
264 \RequirePackage{ifxetex}[2006/08/21]
265 \RequirePackage{hycolor}
266 \RequirePackage{letltxmacro}[2008/06/13]
267 \RequirePackage{auxhook}[2009/12/14]
268 \def\Hy@Error{\@PackageError{hyperref}}
269 \def\Hy@Warning{\@PackageWarning{hyperref}}
270 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
271 \def\Hy@Info{\@PackageInfo{hyperref}}
272 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
273 \def\Hy@Message#1{%
274   \GenericWarning{%
275     (hyperref)\@spaces\@spaces\@spaces
276   }{%
277     Package hyperref Message: #1\ltx@gobble
278   }%
279 }

```

4.3 Version check

\Hy@VersionChecked

```

280 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

281 \def\Hy@VersionCheck#1{%
282   \begingroup
283   \ltx@ifundefined{ver@hyperref.sty}{%
284     \Hy@Error{%
285       This should not happen!\MessageBreak
286       Missing hyperref version%
287     }\@ehd
288   }{%
289     \ltx@ifundefined{ver@#1}{%
290       \Hy@Error{%
291         This should not happen!\MessageBreak
292         Missing version of ‘#1’%
293       }\@ehd
294     }{%
295       \def\x##1##2##3{%
296         \expandafter\expandafter\expandafter\Hy@@VersionCheck
297         \expandafter\expandafter\expandafter##2%
298         \csname ver@##3\endcsname##1##1\@nil
299       }%
300       \x{ }\y{hyperref.sty}%
301       \x{ }\z{#1}%
302       \ifx\y\z

```

```

303     \else
304         \edef\A{#1}%
305         \edef\B{\HyOpt@CustomDriver.def}%
306         \ifx\A\B
307             \Hy@WarningNoLine{%
308                 Version mismatch (custom driver)!\MessageBreak
309                 * \y: hyperref.sty\MessageBreak
310                 * \z: \A
311             }%
312         \else
313             \Hy@Error{%
314                 Version mismatch!\MessageBreak
315                 * \y: hyperref.sty\MessageBreak
316                 * \z: \A
317             }\@ehd
318         \fi
319     \fi
320 }%
321 }%
322 \endgroup
323 \chardef\Hy@VersionChecked=1 %
324 }

```

\Hy@@VersionCheck

```

325 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
326     \def#1{#2 #3}%
327 }

```

4.4 Checks with regular expressions

```

328 \ltx@ifundefined{pdfmatch}{%
329     \def\Hy@Match#1#2#3#4#5{%
330 }{%
331     \def\Hy@Match#1#2#3{%
332         \begingroup
333         \edef\~{\ltx@backslashchar\string~}%
334         \edef\.\{\ltx@backslashchar.}%
335         \edef\[\{\ltx@backslashchar[]}%
336         \edef\${\ltx@backslashchar$}%
337         \edef\(\{\ltx@backslashchar(}%
338         \edef\)\{\ltx@backslashchar)}%
339         \edef\|\{\ltx@backslashchar|}%
340         \edef\*\{\ltx@backslashchar*}%
341         \edef\+\{\ltx@backslashchar+}%
342         \edef\?\{\ltx@backslashchar?}%
343         \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
344         \edef\}\{\ltx@rightbracechar}%
345         \edef\{\{\ltx@backslashchar\ltx@backslashchar}%
346         \let\ \ltx@space
347         \ifcase\pdfmatch#2{#3}{#1} %

```



```

348 \endgroup
349 \expandafter\ltx@secondoftwo
350 \or
351 \endgroup
352 \expandafter\ltx@firstoftwo
353 \else
354 \Hy@Warning{%
355   Internal error: Wrong pattern!\MessageBreak
356   --> #3 <--\MessageBreak
357   Pattern check ignored%
358 }%
359 \endgroup
360 \expandafter\ltx@firstoftwo
361 \fi
362 }%
363 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{%
364 \begingroup
365 \lccode'0='{ }\relax
366 \lowercase{\endgroup
367 \def\ltx@leftbracechar{0}%
368 }%
369 \begingroup
370 \lccode'0='{ }\relax
371 \lowercase{\endgroup
372 \def\ltx@rightbracechar{0}%
373 }%
374 }%
375 }

```

4.5 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\AfterBeginDocument` and `\AtBeginDocument`. If `ldump` is not loaded, then a single hook suffices for normal \LaTeX processing.

The default definition of `\AfterBeginDocument` cannot be done by `\let` because of problems with `xypic`.

```

376 \@ifundefined{AfterBeginDocument}{%
377 \def\AfterBeginDocument{\AtBeginDocument}%
378 }{}%

```

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument`/`\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

```

379 \def\Hy@AtBeginDocument{%
380 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
381 }

```

`\Hy@AtEndOfPackage`

```
382 \def\Hy@AtEndOfPackage{%
383   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
384 }
```

`\Hy@AtBeginDocumentHook`

```
385 \let\Hy@AtBeginDocumentHook\ltx@empty
```

`\Hy@AtEndOfPackageHook`

```
386 \let\Hy@AtEndOfPackageHook\ltx@empty
```

Install the hook, before package ‘kvoptions’ is loaded.

```
387 \AtEndOfPackage{%
388   \Hy@AtEndOfPackageHook
389   \let\Hy@AtEndOfPackageHook\@undefined
390   \AfterBeginDocument{%
391     \Hy@AtBeginDocumentHook{}}%
392   \let\Hy@AtBeginDocumentHook\@undefined
393 }%
394 }
```

Package kvoptions is used for processing options that are given as key value pairs. The package provides `\ProcessKeyvalOptions`, formerly known as `\ProcessOptionsWithKV`.

```
395 \RequirePackage{kvoptions}[2009/07/21]
```

4.6 Switches

```
396 \newif\ifHy@stoppedearly
397 \newif\ifHy@typexml
398 \newif\ifHy@activeanchor
399 \newif\ifHy@backref
400 \newif\ifHy@bookmarks
401 \newif\ifHy@bookmarksnumbered
402 \newif\ifHy@bookmarksopen
403 \newif\ifHy@breaklinks
404 \newif\ifHy@pdfcenterwindow
405 \newif\ifHy@CJKbookmarks
406 \newif\ifHy@colorlinks
407 \newif\ifHy@destlabel
408 \newif\ifHy@draft
409 \let\Hy@finaltrue\Hy@draftfalse
410 \let\Hy@finalfalse\Hy@drafttrue
411 \newif\ifHy@pdfescapeform
412 \newif\ifHy@hyperfigures
413 \newif\ifHy@pdffitwindow
414 \newif\ifHy@frenchlinks
415 \newif\ifHy@hyperfootnotes
416 \newif\ifHy@hyperindex
```

```

417 \newif\ifHy@hypertextnames
418 \newif\ifHy@implicit
419 \newif\ifHy@linktopage
420 \newif\ifHy@localanchorname
421 \newif\ifHy@pdfmenubar
422 \newif\ifHy@naturalnames
423 \newif\ifHy@nesting
424 \newif\ifHy@pdfnewwindowset
425 \newif\ifHy@pdfnewwindow
426 \newif\ifHy@ocgcolorlinks
427 \newif\ifHy@pageanchor
428 \newif\ifHy@pdfpagelabels
429 \newif\ifHy@pdfpagehidden
430 \newif\ifHy@pdfstring
431 \newif\ifHy@plainpages
432 \newif\ifHy@psize
433 \newif\ifHy@raiselinks
434 \newif\ifHy@seminarslides
435 \newif\ifHy@setpagesize
436 \newif\ifHy@texht
437 \newif\ifHy@psdextra
438 \newif\ifHy@pdftoolbar
439 \newif\ifHy@unicode
440 \newif\ifHy@pdfusetitle
441 \newif\ifHy@verbose
442 \let\Hy@debugtrue\Hy@verbostrue
443 \let\Hy@debugfalse\Hy@verbosefalse
444 \newif\ifHy@pdfwindowui
445 \newif\ifHy@pdfdisplaydoctitle
446 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

447 \Hy@backreffalse
448 \Hy@bookmarksnumberedfalse
449 \Hy@bookmarksopenfalse
450 \Hy@bookmarkstrue
451 \Hy@breaklinksfalse
452 \Hy@pdfcenterwindowfalse
453 \Hy@CJKbookmarksfalse
454 \Hy@destlabelfalse
455 \Hy@pdfescapeformfalse
456 \Hy@hyperfiguresfalse
457 \Hy@pdffitwindowfalse
458 \Hy@hyperfootnotesttrue
459 \Hy@hyperindextrue
460 \Hy@hypertextnamestrue
461 \Hy@implicittrue
462 \Hy@linktopagefalse
463 \Hy@localanchornamefalse
464 \Hy@pdfmenubartrue

```

```

465 \Hy@naturalnamesfalse
466 \Hy@nestingfalse
467 \Hy@pdfnewwindowsetfalse
468 \Hy@pdfnewwindowfalse
469 \Hy@pageanchortrue
470 \Hy@pdfpagelabelstrue
471 \Hy@pdfpagehiddenfalse
472 \Hy@pdfstringfalse
473 \Hy@plainpagesfalse
474 \Hy@raiselinksfalse
475 \Hy@setpagesizetrue
476 \Hy@texhtfalse
477 \Hy@psdextrafalse
478 \Hy@pdftoolbartrue
479 \Hy@typexmlfalse
480 \Hy@unicodfalse
481 \Hy@pdfusetitlefalse
482 \Hy@verbosefalse
483 \Hy@pdfwindowuitrue
484 \Hy@pdfdisplaydoctitlefalse
485 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

486 \def\Hy@StepCount#1{\advance#1 by 1 }%

```

\Hy@GlobalStepCount

```

487 \def\Hy@GlobalStepCount#1{\global\advance#1 by 1 }%

488 \newdimen\@linkdim
489 \let\Hy@driver\ltx@empty
490 \let\MaybeStopEarly\relax
491 \newcount\Hy@linkcounter
492 \newcount\Hy@pagecounter
493 \Hy@linkcounter0
494 \Hy@pagecounter0

```

5.1 Macros for recursions

```

495 \let\Hy@ReturnEnd\@empty
496 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
497 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

\Hy@safe@activetrue Babel's switch setting commands cannot be used directly, because they can be undefined if babel is not loaded.

\Hy@safe@activesfalse

```

498 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
499 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

At some places numbers in pdf units are expected (eg: FitBH, ...). The following macros perform the transformation from TeX units (pt) to PDF units (bp).

`\hypercalcbp` The user macro `\hypercalcbp` can be used, for example, inside option values:

```
pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in}}
```

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
 - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
 - For calculations package `calc` has to be loaded.
 - The expansion of the argument is done at definition time.

Example (TeX):

```
\usepackage{calc}
\usepackage[...]{hyperref}
\hypersetup{
  pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in
    -\headheight-\headsep}
}
```

`\hypercalcbp`

```
500 \begingroup\expandafter\expandafter\expandafter\endgroup
501 \expandafter\ifx\csname dimexpr\endcsname\relax
502   \def\hypercalcbpdef#1#2{%
503     \begingroup
504       \toks@{}%
505       \HyCal@scan#2\hypercalcbp\@nil
506     \expandafter\endgroup
507     \expandafter\def\expandafter#1\expandafter{\the\toks@}%
508   }%
509 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
510   \toks@\expandafter{\the\toks@ #1}%
511   \ifx\#2\%
512     \else
513       \ltx@ReturnAfterFi{%
514         \HyCal@do#2\@nil
515       }%
516   \fi
```

```

517 }%
518 \def\HyCal@do#1#2\@nil{%
519 \@ifpackageloaded{calc}{}{}%
520 \Hy@Warning{%
521   For calculations \string\hypercalcbp\space needs\MessageBreak
522   package calc or e-TeX%
523 }%
524 }%
525 \setlength{\dimen@}{#1}%
526 \setlength{\dimen@}{0.99626401\dimen@}%
527 \edef\x{%
528   \toks@{%
529     \the\toks@
530     \strip@pt\dimen@
531   }%
532 }\x
533 \HyCal@scan#2\@nil
534 }%
535 \else
536 \def\hypercalcbp#1{%
537   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
538 }%
539 \def\hypercalcbpdef{\def}%
540 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Naming convention: All internal commands that are only needed by `\pdfstringdef` are prefixed with `\HyPsd@`.

6.1 Description of PDF strings

The PDF specification defines several places to hold text strings (bookmark names, document information, text annotations, etc.). The PDF strings have following properties:

- They are surrounded by parentheses. The hexadecimal form is not supported.
- Like PostScript language strings they use the same escaping mechanism:

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <code>ddd</code>
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISO-Latin1` and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

The central macro for dealing with PDF strings is `\pdfstringdef`. It defines a command `#1` to be the result of the conversion from the string in `#2` to a legal PDFDocEncoded string. Currently the definition is global, but this can be changed in the future.

Important: In \TeX 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a \TeX interpreter!

The macro `\pdfstringdef` consists of three main parts:

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The \TeX string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

`\pdfstringdef` `\pdfstringdef` works on the tokens in `#2` and converts them to a PDF string as far as possible:

- The result should obey the rules of the PDF specification for strings.
- The string can safely be processed by \TeX , because the tokens have only catcodes 10 until 12.

The result is stored in the command token given in `#1`.

```
541 \def\pdfstringdef#1#2{%
```

Many redefinitions are needed, so all the work is done in a group.

```
542 \begingroup
```

6.2.1 Preprocessing

Octal escape sequences. To avoid problems with eight bit or non printable characters, the octal escape notation is supported. So most glyphs in the encoding definitions for PD1 and PU produce these octal escape sequences. All three octal digits have to be used:

- Wrong results are avoided, if digits follow that are not part of the octal sequence.
- Macros rely on the fact that the octal sequences always consist of three digits (vtex driver, Unicode support).

The escape sequences start with a backslash. By `\string` it will be printed. Therefore it is ensured that the \TeX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard \LaTeX behaviour.

```
543 \escapechar'\%
```

From the view of \TeX a octal sequence consists of the command tokens `\0` until `\3` and two digits. For saving tokens `\0`, `\1`, `\2`, and `\3` are directly used without a preceding `\string` in the glyph definitions. This is done here locally by defining the `\0` until `\3` commands. So the user can use octal escape sequences directly, the disadvantage is that a previous definition of this short commands does not apply.

```
544 \edef\0{\string\0}%
545 \edef\1{\string\1}%
546 \edef\2{\string\2}%
547 \edef\3{\string\3}%
```

Setting font encoding. The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

```
548 \ifHy@unicode
549 \edef\8{\string\8}%
550 \edef\9{\string\9}%
551 \fontencoding{PU}%
552 \HyPsd@UTFviii
553 \def\ifpdfstringunicode##1##2{##1}%
554 \else
555 \fontencoding{PD1}%
556 \def\ifpdfstringunicode##1##2{##2}%
557 \fi
558 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
559 \enc@update
```

Internal encoding commands. `\pdfstringdef` interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before `\@inmathwarn` will be disabled (see below).

```
560 \@inmathwarn\pdfstringdef
```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```
561 \let\@inmathwarn\HyPsd@inmathwarn
```

Unknown composite characters are built with `\add@accent`, so it is redefined to provide a warning.

```
562 \let\add@accent\HyPsd@add@accent
```


Commands that don't use NFSS directly. There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

```

563 \let\{\textbraceleft
564 \let\}\textbraceright
565 \let\\\textbackslash
566 \let\#\textnumbersign
567 \let\$\textdollar
568 \let\%\textpercent
569 \let\&\textampersand
570 % \let\~\textasciitilde
571 \let\_ \textunderscore
572 \let\P\textparagraph
573 \let\ldots\textellipsis
574 \let\dots\textellipsis

```

Newline \newline or \\ do not work in bookmarks, in text annotations they should expand to \r. In pdf strings \\ stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

backslash: \pdfstringdefDisableCommands{\let\\\textbackslash}

new line: \pdfstringdefDisableCommands{\let\\\textCR}

disabled: \pdfstringdefDisableCommands{\let\\\empty}

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

```

575 \def\{\pdfstringdefWarn\\}%
576 \def\newline{\pdfstringdefWarn\newline}%

```

Logos. Because the box shifting used in the T_EX logo does not work while writing to a file, the standard T_EX logos are redefined.

```

577 \def\TeX{\TeX}%
578 \def\LaTeX{\LaTeX}%
579 \def\LaTeXe{%
580   \LaTeX2%
581   \ifHy@unicode\textepsilon\else e\fi
582 }%
583 \def\eTeX{%
584   \ifHy@unicode\textepsilon\else e\fi
585   -\TeX%
586 }%
587 \def\SliTeX{\SliTeX}%
588 \def\MF{Metafont}%
589 \def\MP{Metapost}%

```

Standard font commands. Because font changes do not work, the standard font switching commands are disabled.

```

590 \let\fontencoding\@gobble
591 \let\fontfamily\@gobble
592 \let\fontseries\@gobble
593 \let\fontshape\@gobble
594 \let\fontsize\@gobbletwo
595 \let\selectfont\@empty
596 \let\usefont\@gobblefour
597 \let\emph\@firstofone
598 \let\textnormal\@firstofone
599 \let\textrm\@firstofone
600 \let\textsf\@firstofone
601 \let\texttt\@firstofone
602 \let\textbf\@firstofone
603 \let\textmd\@firstofone
604 \let\textit\@firstofone
605 \let\textsc\@firstofone
606 \let\textsl\@firstofone
607 \let\textup\@firstofone
608 \let\normalfont\@empty
609 \let\rmfamily\@empty
610 \let\sfamily\@empty
611 \let\ttfamily\@empty
612 \let\bfseries\@empty
613 \let\mdseries\@empty
614 \let\itshape\@empty
615 \let\scshape\@empty
616 \let\slshape\@empty
617 \let\upshape\@empty
618 \let\em\@empty
619 \let\rm\@empty
620 \let\Huge\@empty
621 \let\LARGE\@empty
622 \let\Large\@empty
623 \let\footnotesize\@empty
624 \let\huge\@empty
625 \let\large\@empty
626 \let\normalsize\@empty
627 \let\scriptsize\@empty
628 \let\small\@empty
629 \let\tiny\@empty
630 \let\mathversion\@gobble
631 \let\phantom\@gobble
632 \let\vphantom\@gobble
633 \let\hphantom\@gobble

```

Package pifont.

```

634 \let\ding\HyPsd@ding

```

```

635 \let\Cube\HyPsd@DieFace
636 %* \HyPsd@DieFace -> \epsdice (epsdice)
637 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

638 \def\begin#1{\csname#1\endcsname}%
639 \def\end#1{\csname end#1\endcsname}%

```

Package color.

```

640 \def\textcolor##1###{\@secondoftwo}%

```

Upper- and lowercase.

```

641 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
642 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

Support of math commands without prefix `text`. This is controlled by option “psdextra” and only activated with Unicode PDF strings.

```

643 \ifHy@psdextra
644 \ifHy@unicode
645 \csname psdmapshortnames\endcsname
646 \csname psdaliasnames\endcsname
647 \fi
648 \fi

```

Package babel. Whereever “naturalnames” is used, disable `\textlatin` (from Babel 3.6k). Thanks to Felix Neubauer (Email: Felix.Neubauer@gmx.net).

```

649 \let\foreignlanguage\@secondoftwo
650 \let\textlatin\@firstofone
651 \ltx@ifundefined{language@group}{-}{-}%
652 \csname HyPsd@babel@\language@group\endcsname
653 }%
654 \HyPsd@GreekPatch
655 \HyPsd@SpanishPatch
656 \HyPsd@RussianPatch
657 \HyPsd@BabelPatch
658 \let\@safe@activetrue\relax
659 \let\@safe@activesfalse\relax

```

Disable `\cyr`, used in `russianb.ldf`.

```

660 \let\cyr\relax

```

Redefine `\es@roman`, used in `spanish.ldf`.

```

661 \let\es@roman\@Roman

```

Package german.

```
662 \let\glqq\textglqq
663 \let\grqq\textgrqq
664 \let\glq\textglq
665 \let\grq\textgrq
666 \let\flqq\textflqq
667 \let\frqq\textfrqq
668 \let\flq\textflq
669 \let\frq\textfrq
```

Package french. The support is deferred, because it needs `\GenericError` to be disabled (see below).

Package FrenchPro. This package uses:

```
\if@mid@expandable{not fully expandable code}{fully expandable
code}

670 \let\if@mid@expandable\@firstoftwo
```

AMS classes.

```
671 \HyPsd@AMSClassfix
```

Redefinition of `\hspace` `\hspace` don't work in bookmarks, the following fix tries to set a space if the argument is a positive length.

```
672 \let\hspace\HyPsd@hspace
```

Commands of referencing and indexing systems. Some \LaTeX commands that are legal in `\section` commands have to be disabled here.

```
673 \let\label\@gobble
674 \let\index\@gobble
675 \let\glossary\@gobble
676 \let\href\HyPsd@href
677 \let\@mkboth\@gobbletwo
```

The `\ref` and `\pageref` is much more complicate because of their star form.

```
678 \let\ref\HyPsd@ref
679 \let\pageref\HyPsd@pageref
680 \let\nameref\HyPsd@nameref
681 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
682 \let\leavevmode\@empty
683 \let\mbox\@empty
```

`\halign` causes error messages because of the template character `#`.

```
684 \def\halign{\pdfstringdef\Warn\halign\@gobble}%
```

```

685 \let\ignorespaces\HyPsd@ignorespaces
686 \let\Hy@SectionAnchorHref\@gobble
687 \let\ensuremath\@firstofone

```

Patch for cjk bookmarks.

```

688 \HyPsd@CJKhook

```

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted within \TeX 's stomach, but to be expanded by the mouth to give a PDF string. At this place before interpreting the string in `#2` additional redefinitions can be added by the hook `\pdfstringdefPreHook`.

The position in the middle of the redefinitions is a compromise: The user should be able to provide his own (perhaps better) redefinitions, but some commands should have their original meaning, because they can be used in the hook (`\bgroup`, or `\@protected@testopt`, and `\@ifnextchar` for `\renewcommand`).

```

689 \Hy@pdfstringtrue
690 \pdfstringdefPreHook

```

Spaces. For checking the token of the string, spaces must be masked, because they cannot be caught by undelimited arguments.

```

691 \HyPsd@LetUnexpandableSpace\space
692 \HyPsd@LetUnexpandableSpace\ %
693 \HyPsd@LetUnexpandableSpace-%
694 \HyPsd@LetUnexpandableSpace\nobreakspace

```

Package xspace.

```

695 \ltx@ifundefined{@xspace}{%
696   \let\xspace\HyPsd@ITALCORR
697 }{%
698   \let\xspace\HyPsd@XSPACE
699 }%
700 \let\/\HyPsd@ITALCORR
701 \let\bgroup\/%
702 \let\egroup\/%

```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```

703 \let\discretionary\@gobbletwo

```

`\@ifstar` is defined in \LaTeX as follows:

```

\def\@ifstar#1{\@ifnextchar *{\@firstofone{#1}}

```

`\@ifnextchar` doesn't work, because it uses stomach commands like `\let` and `\futurelet`. But it doesn't break. Whereas `\@firstoftwo{#1}` gives an error message because `\@firstoftwo` misses its second argument.

A mimicry of `\@ifnextchar` only with expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

```

704 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
705 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
706 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
707 \let\@protected@testopt\HyPsd@protected@testopt

```

Support for package 'xargs':

```

708 \let\@protected@testopt@xargs\HyPsd@protected@testopt

```

6.2.2 Expansion

There are several possibilities to expand tokens within L^AT_EX:

`\protected@edef`: The weakest form isn't usable, because it does not expand the font encoding commands. They are made robust and protect themselves.

`\csname`: First the string is expanded within a `\csname` and `\endcsname`. Then the command name is converted to characters with catcode 12 by `\string` and the first escape character removed by `\@gobble`. This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by T_EX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. T_EX provides no way to catch the error caused by `\csname` or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option `exactdef` in previous versions less or equal 6.50.

`\edef` This version uses this standard form for expansion. It is stronger than L^AT_EX's `\protected@edef`. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of L^AT_EX doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't T_EX, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning

for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

Generic messages. While expanding via `\xdef` the `\Generic...` messages don't work and causes problems (error messages, invalid `.out` file). So they are disabled while expanding and removed silently, because a user warning would be too expensive (memory and runtime, `\pdfstringdef` is slow enough).

```

709 \begingroup
710 \let\GenericError\@gobblefour
711 \let\GenericWarning\@gobbletwo
712 \let\GenericInfo\@gobbletwo

```

Package french. This fix only works, if `\GenericError` is disabled.

```

713 \ifx\nofrenchguillemets\@undefined
714 \else
715 \nofrenchguillemets
716 \fi

```

Definition commands and expansion. Redefining the defining commands (see sec. 6.5.12). The original meaning of `\xdef` is saved in `\Hy@temp`.

```

717 \let\Hy@temp\xdef
718 \let\def\HyPsd@DefCommand
719 \let\gdef\HyPsd@DefCommand
720 \let\edef\HyPsd@DefCommand
721 \let\xdef\HyPsd@DefCommand
722 \let\futurelet\HyPsd@LetCommand
723 \let\let\HyPsd@LetCommand
724 \Hy@temp#1{#2}%
725 \endgroup

```

6.2.3 Postprocessing

If the string is empty time can be saved by omitting the postprocessing process.

```

726 \ifx#1\@empty
727 \else

```

Protecting spaces and removing grouping characters. In order to check the tokens we must separate them. This will be done with T_EX's argument parsing. With this method we must the following item takes into account, that makes makes things a little more complicate:

- T_EX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.

- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by \TeX 's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- \TeX silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character | is appended to the string to make an outer brace to an inner one.

First the top level spaces are protected by replacing. Then the string is scanned to detect token groups. Each token group will now be space protected and again scanned for another token groups.

```

728 \HyPsd@ProtectSpaces#1%
729 \let\HyPsd@String\@empty
730 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
731 \global\let#1\HyPsd@String

```

Check tokens. After removing the spaces and the grouping characters the string now should only consists of the following tokens/catcodes:

- 0 command names with start with an escape character.
- 3 math shift
- 4 alignment tabs
- 6 parameter, but this is unlikely.
- 7 superscript
- 8 subscript
- 11 letter
- 12 other
- 13 commands that are active characters.

After `\HyPsd@CheckCatcodes` the command `\HyPsd@RemoveMask` is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if `\HyPsd@CheckCatcodes` is called.

Because of internal local assignments and tabulars group braces are used.

```

732 \let\HyPsd@SPACEOPTI\relax
733 {%
734 \let\HyPsd@String\@empty
735 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@end
736 \global\let#1\HyPsd@String
737 }%
738 \expandafter\HyPsd@RemoveMask\expandafter
739 |\expandafter\@empty#1\HyPsd@end#1%

```

`\HyPsd@CheckCatcodes` should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to many errors before, there should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

```
\xdef#1{\expandafter\strip@prefix\meaning#1}%
```


Looking for wrong glyphs. The case that glyphs aren't defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

```

740 \expandafter
741 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
742 \let\HyPsd@String\@empty
743 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
744 \global\let#1\HyPsd@String

```

Backslash. The double backslash disturbs parsing octal sequences, for example in an string like `abc\\051` the sequence `\051` is detected although the second `\` belongs to the first backslash.

```

745 \HyPsd@StringSubst{\\}{\textbackslash}#1%

```

Spaces. All spaces have already the form `\040`. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command `\HyPsd@SPACEOPTI`. But first it is defined to be `\relax` in order to prevent a too early expansion by an `\edef`. Secondly a `\relax` serves as a marker for a token that is detected by `\xspace`.

The code of `frenchb.ldf` can produce an additional space before `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```

746 \ifHy@unicode
747 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
748 \HyPsd@SPACEOPTI#1%
749 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
750 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
751 {\HyPsd@SPACEOPTI\80\273}#1%
752 \else
753 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
754 \expandafter\HyPsd@Subst\expandafter{%
755 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
756 \string\273}{\HyPsd@SPACEOPTI\273}#1%
757 \fi

```

Right parenthesis. Also `\xspace` detects a right parenthesis. For the `\xspace` support and the following parenthesis check the different parenthesis notations `)`, `\)`, and `\051` are converted to one type `\)` and before `\HyPsd@empty` with the meaning of `\relax` is introduced for `\xspace`. By redefining to `\@empty` `\HyPsd@empty` can easily removed later.

```

758 \ifHy@unicode
759 \HyPsd@StringSubst{\)}{\80\051}#1%
760 \HyPsd@Subst){\80\051}#1%
761 \let\HyPsd@empty\relax
762 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname

```

```

763      {\HyPsd@empty\80\051}#1%
764  \else
765    \HyPsd@StringSubst{\}){\051}#1%
766    \HyPsd@Subst){\051}#1%
767    \let\HyPsd@empty\relax
768    \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
769  \fi

```

Support for package `xspace`. `\xspace` looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package `xspace` there are tokens with catcode 11 and 12, `\HyPsd@empty` and `\HyPsd@SPACEOPTI`. With package `xspace` marker for the italic correction `\/` and `\xspace` come with. In the package `xspace` case the two markers are replaced by commands and an `\edef` performs the `\xspace` processing.

In the opposite of the original `\xspace` `\HyPsd@xspace` uses an argument instead of a `\futurelet`, so we have to provide such an argument, if `\HyPsd@xspace` comes last. Because `\HyPsd@Subst` with several equal tokens (`--`) needs a safe last token, in both cases the string gets an additional `\HyPsd@empty`.

```

770  \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
771  \ltx@ifundefined{@xspace}{%
772  }{%
773    \let\HyPsd@xspace\relax
774    \expandafter\HyPsd@Subst\expandafter
775    {\HyPsd@XSPACE}\HyPsd@xspace#1%
776    \let\HyPsd@xspace\HyPsd@doboxspace
777  }%
778  \xdef#1{#1\HyPsd@empty}%

```

Ligatures. $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ forms ligatures in its stomach, but the PDF strings are treated only by $\mathrm{T}_{\mathrm{E}}\mathrm{X}$'s mouth. The `PDFDocEncoding` contains some ligatures, but the current version 3 of the `AcrobatReader` lacks the `fi` and `fl` glyphs, and the Linux version lacks the `emdash` and `endash` glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the `AcrobatReader` is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an `\HyPsd@empty`. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package `xspace` is loaded.

Since newer `AcrobatReader` versions now show the `en-` and `emdash` in a correct way (`AR7/Linux`, `AR8/Linux`), the substitution code for them is enabled starting with version 6.78l.

```

779  \HyPsd@Subst{---}\textemdash#1%
780  \HyPsd@Subst{--}\textendash#1%
781 %  \HyPsd@Subst{fi}\textfi#1%
782 %  \HyPsd@Subst{fl}\textfl#1%

```

```

783 \HyPsd@Subst{!'}\textexclamdown#1%
784 \HyPsd@Subst{?'}\textquestiondown#1%

```

With the next `\edef` we get rid of the token `\HyPsd@empty`.

```

785 \let\HyPsd@empty\@empty

```

Left parentheses. Left parentheses are now converted to safe forms to avoid problems with unmatched ones (`\(` with `PDFDocEncoding`, the octal sequence with `Unicode`).

An optimization is possible. Matched parentheses can be replaced by a `()` pair. But this code is removed to save `TEX` memory and time.

```

786 \ifHy@unicode
787 \HyPsd@StringSubst\(\textparenleft#1%
788 \HyPsd@Subst\(\textparenleft#1%
789 \else
790 \HyPsd@StringSubst\({\050}#1%
791 \HyPsd@Subst({\050}#1%
792 \HyPsd@StringSubst{\050}{\string\{ }#1%
793 \fi

```

Optimizing spaces. Spaces are often used, but they have a very long form `\040`. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the `.out` file, but if the entries are read back, several spaces are merged to a single one.

With `Unicode` the spaces are replaced by their octal sequences.

```

794 \ifHy@unicode
795 \edef\HyPsd@SPACEOPTI{\80\040}%
796 \else
797 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
798 \fi
799 \xdef#1{#1\@empty}%
800 \fi

```

Converting to Unicode. At last the eight bit letters have to be converted to `Unicode`, the masks `\8` and `\9` are removed and the `Unicode` marker is added.

```

801 \endgroup
802 \begingroup
803 \ifHy@unicode
804 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to `PDFDocEncoding`.

```

805 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
806 \ltx@ifundefined{StringEncodingConvertTest}{%
807 }{%
808 \EdefUnescapeString\HyPsd@temp#1%
809 \ifxetex
810 \let\HyPsd@UnescapedString\HyPsd@temp

```

```

811      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
812      {utf16be}{ascii-print}{%
813      \EdefEscapeString\HyPsd@temp\HyPsd@temp
814      \global\let#1\HyPsd@temp
815      \HyPsd@EscapeTeX#1%
816      \Hy@unicodedefalse
817      }{%
818      \HyPsd@ToBigChars#1%
819      }%
820      \else
821      \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
822      {utf16be}{pdfdoc}{%
823      \EdefEscapeString\HyPsd@temp\HyPsd@temp
824      \global\let#1\HyPsd@temp
825      \HyPsd@EscapeTeX#1%
826      \Hy@unicodedefalse
827      }{%}%
828      \fi
829      }%
830      \fi
831      \fi
832      \HyPsd@XeTeXBigCharsfalse

```

User hook. The hook `\pdfstringdefPostHook` can be used for the purpose to postprocess the string further.

```

833      \pdfstringdefPostHook#1%
834      \endgroup
835      }

```

`\Hy@pdfstringdef`

```

836 \def\Hy@pdfstringdef#1#2{%
837   \pdfstringdef\Hy@gtemp{#2}%
838   \let#1\Hy@gtemp
839 }

```

6.3 Encodings

6.3.1 XeTeX

```

840 \edef\Hy@temp{\catcode0=\the\catcode0\relax}
841 \catcode\z@=12 %
842 \ifxetex
843   \expandafter\@firstofone
844   \else
845     \let\HyPsd@XeTeXBigCharstrue\@empty
846     \let\HyPsd@XeTeXBigCharsfalse\@empty
847     \expandafter\@gobble
848   \fi
849   {%

```

```

850 \newif\ifHyPsd@XeTeXBigChars
851 \def\HyPsd@XeTeXBigCharsfalse{%
852   \global\let\ifHyPsd@XeTeXBigChars\iffalse
853 }%
854 \def\HyPsd@XeTeXBigCharstrue{%
855   \global\let\ifHyPsd@XeTeXBigChars\iftrue
856 }%
857 \def\HyPsd@ToBigChars#1{%
858   \ifHyPsd@XeTeXBigChars
859     \EdefEscapeHex\HyPsd@UnescapedString{%
860       \expandafter\@gobbletwo\HyPsd@UnescapedString
861     }%
862   \begingroup
863     \toks@{}%
864     \escapechar=92\relax
865     \let\x\HyPsd@ToBigChar
866     \expandafter\HyPsd@ToBigChar\HyPsd@UnescapedString
867     \relax\relax\relax\relax\relax\relax\relax
868   \edef\x{%
869     \endgroup
870     \gdef\noexpand#1{\the\toks@}%
871   }%
872   \x
873 \fi
874 }%
875 \def\HyPsd@ToBigChar#1#2#3#4{%
876   \ifx\relax#1\relax
877     \let\x\relax
878   \else
879     \count@=#1#2#3#4\relax
880     \let\y\@empty
881     \lccode\z@=\count@
882     \ifnum\count@=40 % (
883       \let\y\@backslashchar
884     \else
885       \ifnum\count@=41 % )
886         \let\y\@backslashchar
887       \else
888         \ifnum\count@=92 % backslash
889           \let\y\@backslashchar
890         \else
891           \ifnum\count@=10 % newline
892             \edef\y##1{\string\n}%
893           \else
894             \ifnum\count@=13 % carriage return
895               \edef\y##1{\string\r}%
896             \fi
897           \fi
898         \fi
899       \fi

```

```

900 \fi
901 \lowercase{%
902 \toks@\expandafter{%
903 \the\expandafter\toks@
904 \y
905 ^^@%
906 }%
907 }%
908 \fi
909 \x
910 }%
911 }
912 \Hy@temp

```

6.3.2 Workaround for package linguex

```

913 \@ifpackageloaded{linguex}{%
914 \let\HyLinguex@OrgB\b
915 \let\HyLinguex@OrgC\c
916 \let\HyLinguex@OrgD\d
917 \def\HyLinguex@Restore{%
918 \let\b\HyLinguex@OrgB
919 \let\c\HyLinguex@OrgC
920 \let\d\HyLinguex@OrgD
921 }%
922 \Hy@AtEndOfPackage{%
923 \pdfstringdefDisableCommands{%
924 \ltx@ifundefined{oldb}{\let\b\oldb}%
925 \ltx@ifundefined{oldc}{\let\c\oldc}%
926 \ltx@ifundefined{oldd}{\let\d\oldd}%
927 }%
928 }%
929 }{%
930 \let\HyLinguex@Restore\relax
931 }%

```

6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

932 \def\Hy@SaveCatcodeSettings#1{%
933 \expandafter\edef\csname Hy@cat@#1\endcsname{%
934 \endlinechar=\the\endlinechar\relax
935 \catcode32 \the\catcode32\relax % (space)
936 \catcode34 \the\catcode34\relax % "
937 \catcode35 \the\catcode35\relax % #
938 \catcode37 \the\catcode37\relax % (percent)
939 \catcode40 \the\catcode40\relax % (
940 \catcode41 \the\catcode41\relax % )
941 \catcode42 \the\catcode42\relax % *
942 \catcode46 \the\catcode46\relax % .
943 \catcode58 \the\catcode58\relax % :

```

```

944 \catcode60 \the\catcode60\relax % <
945 \catcode61 \the\catcode61\relax % =
946 \catcode62 \the\catcode62\relax % >
947 \catcode64 \the\catcode64\relax % @
948 \catcode91 \the\catcode91\relax % [
949 \catcode92 \the\catcode92\relax % \
950 \catcode93 \the\catcode93\relax % ]
951 \catcode123 \the\catcode123\relax % {
952 \catcode124 \the\catcode124\relax % |
953 \catcode125 \the\catcode125\relax % }
954 }%
955 \endlinechar=-1 %
956 \catcode32 10 % (space)
957 \catcode34 12 % "
958 \catcode35 6 % #
959 \catcode37 14 % (percent)
960 \catcode40 12 % (
961 \catcode41 12 % )
962 \catcode42 12 % *
963 \catcode46 12 % .
964 \catcode58 12 % :
965 \catcode60 12 % <
966 \catcode61 12 % =
967 \catcode62 12 % >
968 \catcode91 12 % [
969 \catcode92 0 % \
970 \catcode93 12 % ]
971 \catcode123 1 % {
972 \catcode124 12 % |
973 \catcode125 2 % }
974 \makeatletter
975 }

\Hy@RestoreCatcodeSettings

976 \def\Hy@RestoreCatcodeSettings#1{%
977 \csname Hy@cat@#1\endcsname
978 \expandafter\let\csname Hy@cat@#1\endcsname\relax
979 }

```

6.3.4 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as T_EX does not process it anyway. So use CM.

```

980 \@ifundefined{T@PD1}{%

```

```

981 \Hy@SaveCatcodeSettings{pd1}%
982 \input{pd1enc.def}%
983 \Hy@RestoreCatcodeSettings{pd1}%
984 \HyLinguex@Restore
985 }{}
986 \DeclareFontFamily{PD1}{pdf}{}
987 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
988 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

6.3.5 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option `unicode` is specified as package option.

`\HyPsd@LoadUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@LoadUnicode` called by the package option `unicode`.

```

989 \def\HyPsd@LoadUnicode{%
990 \ifundefined{T@PU}{%
991 \Hy@SaveCatcodeSettings{pu}%
992 \input{puenc.def}%
993 \Hy@RestoreCatcodeSettings{pu}%
994 \HyLinguex@Restore
995 }{}%
996 \DeclareFontFamily{PU}{pdf}{}%
997 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
998 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
999 \HyPsd@LoadExtra
1000 \let\HyPsd@LoadUnicode\relax
1001 }

```

`\HyPsd@LoadExtra`

```

1002 \def\HyPsd@LoadExtra{%
1003 \ifHy@psdextra
1004 \ltx@iffileloaded{puenc.def}{%
1005 \Hy@SaveCatcodeSettings{psdextra}%
1006 \input{psdextra.def}%
1007 \Hy@RestoreCatcodeSettings{psdextra}%
1008 \let\HyPsd@LoadExtra\relax
1009 }{}%
1010 \fi
1011 }

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandable macro `\texorpdfstring`. It expects two ar-

guments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```

1012 \def\texorpdfstring{%
1013   \ifHy@pdfstring
1014     \expandafter\@secondoftwo
1015   \else
1016     \expandafter\@firstoftwo
1017   \fi
1018 }
```

6.4.2 Hooks for `\pdfstringdef`

`\pdfstringdefPreHook` Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined`
`\pdfstringdefPostHook` with `\let` is a little bit faster than `\providecommand`.

```

1019 \@ifundefined{pdfstringdefPreHook}{%
1020   \let\pdfstringdefPreHook\@empty
1021 }{}
1022 \@ifundefined{pdfstringdefPostHook}{%
1023   \let\pdfstringdefPostHook\@gobble
1024 }{}
```

`\pdfstringdefDisableCommands` In `\pdfstringdefPreHook` the user can add code that is executed before the string, that have to be converted by `\pdfstringdef`, is expanded. So replacements for problematic macros can be given. The code in `\pdfstringdefPreHook` should not be replaced perhaps by an `\renewcommand`, because a previous meaning gets lost.

Macro `\pdfstringdefDisableCommands` avoids this, because it reuses the old meaning of the hook and appends the new code to `\pdfstringdefPreHook`, e.g.:

```

\pdfstringdefDisableCommands{%
  \let~\textasciitilde
  \def\url{\pdfstringdefWarn\url}%
  \let\textcolor\@gobble
}%
```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L^AT_EX commands like `\@gobble` or `\@firstofone`.

```

1025 \def\pdfstringdefDisableCommands{%
1026   \begingroup
1027     \makeatletter
1028     \HyPsd@DisableCommands
1029 }
```

`\HyPsd@DisableCommands`

```

1030 \long\def\HyPsd@DisableCommands#1{%
1031   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1032   \endgroup
1033 }
```

(Partial) fix for bug in frenchb.1df 2010/08/21 v2.5a that destroys `\pdfstringdefDisableCommands` after usage in `\AtBeginDocument`.

```

1034 \let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
1035 \AtBeginDocument{%
1036   \@ifundefined{pdfstringdefDisableCommands}{%
1037     \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
1038   }{}%
1039 }
```

`\pdfstringdefWarn` The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `\<>-` is added to the token. `\noexpand` protects the probably undefined one during the first expansion step. Then `\HyPsd@CheckCatcodes` can detect the not allowed token, `\HyPsd@CatcodeWarning` prints a warning message, after `\HyPsd@RemovePrefix` has removed the prefix.

`\pdfstringdefWarn` is intended for document authors or package writers, examples for use can be seen in the definition of `\HyPsd@ifnextchar` or `\HyPsd@protected@testopt`.

```

1040 \def\pdfstringdefWarn#1{%
1041   \expandafter\noexpand\csname<>-string#1\endcsname
1042 }
```

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

`\HyPsd@ignorespaces` With the help of a trick using `\romannumeral` the effect of `\ignorespaces` can be simulated a little, In a special case using an alphabetic constant `\romannumeral` eats an optional space. If the constant is zero, then the `\romannumeral` expression vanishes. The following macro uses this trick twice, thus `\HyPsd@ignorespaces` eats up to two following spaces.

```

1043 \begingroup
1044   \catcode0=12 %
1045   \def\x{\endgroup
1046     \def\HyPsd@ignorespaces{%
1047       \romannumeral\expandafter'\expandafter^^@%
1048       \romannumeral'^^@%
1049     }%
1050   }%
1051 \x
```

6.5.2 Babel languages

Since version 2008/03/16 v3.8j babel uses inside `\AtBeginDocument`:

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}
```

As consequence the shorthands are shown in the bookmarks, not its result. Therefore `\languageshorthands` is disabled before the user hook. If there is a need to use the command, then `\HyOrg@languageshorthands` can be used inside `\pdfstringdefDisableCommands`.

```

1052 \def\HyPsd@BabelPatch{%
1053   \let\HyOrg@languageshorthands\languageshorthands
1054   \let\languageshorthands\HyPsd@LanguageShorthands
1055 }
1056 \begingroup\expandafter\expandafter\expandafter\endgroup
1057 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
1058   \let\HyPsd@langshort@system\@empty
1059   \def\HyPsd@LanguageShorthands#1{%
1060     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1061       \HyPsd@langshort@system
1062     \expandafter\@gobble
1063   \else
1064     \expandafter\@firstofone
1065   \fi
1066   {%
1067     \HyOrg@languageshorthands{#1}%
1068   }%
1069 }%
1070 \else
1071   \def\HyPsd@LanguageShorthands#1{%
1072     \ifnum\pdf@strcmp{#1}{system}=\z@
1073       \expandafter\@gobble
1074     \else
1075       \expandafter\@firstofone
1076     \fi
1077     {%
1078       \HyOrg@languageshorthands{#1}%
1079     }%
1080   }%
1081 \fi
1082 \def\Hy@temp{%
1083   \@ifpackageloaded{babel}{%
1084     \@ifpackagelater{babel}{2008/03/16}{%
1085       \let\Hy@temp\@empty
1086     }{%
1087       \def\HyPsd@BabelPatch{%
1088         \let\HyOrg@languageshorthands\languageshorthands
1089       }%
1090     }%
1091   }{}%
1092 }
1093 \Hy@temp
1094 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1095 \newif\ifHy@next

```

Nothing to do for english.

```

1096 \ltx@ifundefined{danish@sh@}{}{}{}%
1097 \def\HyPsd@babel@danish{%
1098   \declare@shorthand{danish}{"}|{}{}%
1099   \declare@shorthand{danish}{"}~{}{}%
1100 }%
1101 }
1102 \ltx@ifundefined{dutch@sh@}{}{}{}%
1103 \def\HyPsd@babel@dutch{%
1104   \declare@shorthand{dutch}{"}|{}{}%
1105   \declare@shorthand{dutch}{"}~{}{}%
1106 }%
1107 }
1108 \ltx@ifundefined{finnish@sh@}{}{}{}%
1109 \def\HyPsd@babel@finnish{%
1110   \declare@shorthand{finnish}{"}|{}{}%
1111 }%
1112 }
1113 \ltx@ifundefined{french@sh@}{}{}{}%
1114 \def\HyPsd@babel@frenchb{%
1115   \def\guill@spacing{ }%
1116 }%
1117 }
1118 \ltx@ifundefined{german@sh@}{}{}{}%
1119 \def\HyPsd@babel@german{%
1120   \declare@shorthand{german}{"}f{}f{}%
1121   \declare@shorthand{german}{"}|{}{}%
1122   \declare@shorthand{german}{"}~{}{}%
1123 }%
1124 }
1125 \ltx@ifundefined{macedonian@sh@}{}{}{}%
1126 \def\HyPsd@babel@macedonian{%
1127   \declare@shorthand{macedonian}{"}|{}{}%
1128   \declare@shorthand{macedonian}{"}~{}{}%
1129 }%
1130 }{}
1131 \ltx@ifundefined{ngerman@sh@}{}{}{}%
1132 \def\HyPsd@babel@ngerman{%
1133   \declare@shorthand{ngerman}{"}|{}{}%
1134   \declare@shorthand{ngerman}{"}~{}{}%
1135 }%
1136 }
1137 \ltx@ifundefined{portuges@sh@}{}{}{}%
1138 \def\HyPsd@babel@portuges{%
1139   \declare@shorthand{portuges}{"}|{}{}%
1140 }%
1141 }
1142 \ltx@ifundefined{russian@sh@}{}{}{}%
1143 \def\HyPsd@babel@russian{%

```

```

1144 \declare@shorthand{russian}{"}|}{}%
1145 \declare@shorthand{russian}{"}~}{-}%
1146 }%
1147 }
1148 \ltx@ifundefined{slovene@sh@"}@sel}{-}{}%
1149 \def\HyPsd@babel@slovene{%
1150 \declare@shorthand{slovene}{"}|}{}%
1151 }%
1152 }

```

Nested quoting environments are not supported (<<, >>).

```

1153 \ltx@ifundefined{spanish@sh@>@sel}{-}{}%
1154 \def\HyPsd@babel@spanish{%
1155 \declare@shorthand{spanish}{<<}{\guillemotleft}%
1156 \declare@shorthand{spanish}{>>}{\guillemotright}%
1157 \declare@shorthand{spanish}{"}=}{-}%
1158 \declare@shorthand{spanish}{"}~}{-}%
1159 \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1160 \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1161 }%
1162 }
1163 \ltx@ifundefined{swedish@sh@"}@sel}{-}{}%
1164 \def\HyPsd@babel@swedish{%
1165 \declare@shorthand{swedish}{"}|}{}%
1166 \declare@shorthand{swedish}{"}~}{-}%
1167 }%
1168 }
1169 \ltx@ifundefined{ukrainian@sh@"}@sel}{-}{}%
1170 \def\HyPsd@babel@ukrainian{%
1171 \declare@shorthand{ukrainian}{"}|}{}%
1172 \declare@shorthand{ukrainian}{"}~}{-}%
1173 }%
1174 }
1175 \ltx@ifundefined{usorbian@sh@"}@sel}{-}{}%
1176 \def\HyPsd@babel@usorbian{%
1177 \declare@shorthand{usorbian}{"}f}{f}%
1178 \declare@shorthand{usorbian}{"}|}{}%
1179 }%
1180 }
1181 \ltx@ifundefined{greek@sh@\string~@sel}{-}{}%
1182 \let\HyPsd@GreekPatch\@empty
1183 }%
1184 \def\HyPsd@GreekPatch{%
1185 \let\greeknumeral\HyPsd@greeknumeral
1186 \let\Greeknnumeral\HyPsd@Greeknnumeral
1187 }%
1188 }
1189 \def\HyPsd@greeknumeral#1{%
1190 \HyPsd@GreekNum\@firstoftwo{#1}%
1191 }

```

```

1192 \def\HyPsd@Greeknatural#1{%
1193   \HyPsd@GreeNum\@secondoftwo{#1}%
1194 }
1195 \def\HyPsd@GreeNum#1#2{%
1196   \ifHy@unicode
1197     \ifnum#2<\@ne
1198       \@arabic{#2}%
1199     \else
1200       \ifnum#2<1000000 %
1201         \HyPsd@@GreeNum#1{#2}%
1202       \else
1203         \@arabic{#2}%
1204       \fi
1205     \fi
1206   \else
1207     \@arabic{#2}%
1208   \fi
1209 }
1210 \def\HyPsd@@GreeNum#1#2{%
1211   \ifnum#2<\@m
1212     \ifnum#2<10 %
1213       \expandafter\HyPsd@GreeNumI
1214       \expandafter\@gobble\expandafter#1\number#2%
1215     \else
1216       \ifnum#2<100 %
1217         \expandafter\HyPsd@GreeNumII
1218         \expandafter\@gobble\expandafter#1\number#2%
1219       \else
1220         \expandafter\HyPsd@GreeNumIII
1221         \expandafter\@gobble\expandafter#1\number#2%
1222       \fi
1223     \fi
1224   \ifnum#2>\z@
1225     \textnumeralsigngreek
1226   \fi
1227   \else
1228     \ifnum#2<\@M
1229       \expandafter\HyPsd@GreeNumIV\expandafter#1\number#2%
1230     \else
1231       \ifnum#2<100000 %
1232         \expandafter\HyPsd@GreeNumV\expandafter#1\number#2%
1233       \else
1234         \expandafter\HyPsd@GreeNumVI\expandafter#1\number#2%
1235       \fi
1236     \fi
1237   \fi
1238 }
1239 \def\HyPsd@GreeNumI#1#2#3{%
1240   #1{%
1241     \ifnum#3>\z@

```

```

1242     \textnumeralsignlowergreek
1243     \fi
1244 }%
1245 \expandafter#2%
1246 \ifcase#3 %
1247   {}{}%
1248 \or\textalpha\textAlpha
1249 \or\textbeta\textBeta
1250 \or\textgamma\textGamma
1251 \or\textdelta\textDelta
1252 \or\textepsilon\textEpsilon
1253 \or\textstigmagreek\textStigmagreek
1254 \or\textzeta\textZeta
1255 \or\texteta\textEta
1256 \or\texttheta\textTheta
1257 \else
1258   {}{}%
1259 \fi
1260 }
1261 \def\HyPsd@GreekNumII#1#2#3#4{%
1262   #1{%
1263     \ifnum#3>\z@
1264       \textnumeralsignlowergreek
1265       \fi
1266   }%
1267   \expandafter#2%
1268   \ifcase#3 %
1269     {}{}%
1270 \or\textiota\textIota
1271 \or\textkappa\textKappa
1272 \or\textlambda\textLambda
1273 \or\textmu\textMu
1274 \or\textnu\textNu
1275 \or\textxi\textXi
1276 \or\textomicron\textOmicron
1277 \or\textpi\textPi
1278 \or\textkoppagreek\textKoppagreek
1279 \else
1280   {}{}%
1281 \fi
1282 \HyPsd@GreekNumI#1#2#4%
1283 }
1284 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1285   #1{%
1286     \ifnum#3>\z@
1287       \textnumeralsignlowergreek
1288       \fi
1289   }%
1290   \expandafter#2%
1291   \ifcase#3 %

```

```

1292  {}{}%
1293  \or\textrho\textRho
1294  \or\textsigma\textSigma
1295  \or\texttau\textTau
1296  \or\textupsilon\textUpsilon
1297  \or\textphi\textPhi
1298  \or\textchi\textChi
1299  \or\textpsi\textPsi
1300  \or\textomega\textOmega
1301  \or\textsampgreek\textSampgreek
1302  \else
1303  {}{}%
1304  \fi
1305  \HyPsd@GreekNumII#1#2#4#5%
1306 }
1307 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1308   \HyPsd@GreekNumI\@firstofone#1#2%
1309   \HyPsd@@GreekNum#1{#3#4#5}%
1310 }
1311 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1312   \HyPsd@GreekNumII\@firstofone#1#2#3%
1313   \HyPsd@@GreekNum#1{#4#5#6}%
1314 }
1315 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1316   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1317   \HyPsd@@GreekNum#1{#5#6#7}%
1318 }
1319 \def\HyPsd@SpanishPatch{%
1320   \ltx@ifundefined{es@save@dot}{%
1321     }{%
1322       \let\.\es@save@dot
1323     }%
1324 }

```

Shorthand "- of 'russianb.ldf' is not expandable, therefore it is disabled and replaced by -.

```

1325 \def\HyPsd@RussianPatch{%
1326   \ltx@ifundefined{russian@sh@"@-@}{%
1327     }{%
1328       \@namedef{russian@sh@"@-@}{-}%
1329     }%
1330 }

```

6.5.3 CJK patch

```

1331 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1332 \def\HyPsd@CJKhook{%
1333   \ltx@ifpackageloaded{CJK}{%

```



```

1334 \let\CJK@kern\relax
1335 \let\CJKkern\relax
1336 \let\CJK@CJK\relax
1337 \ifHy@CJKbookmarks
1338   \HyPsd@CJKhook@bookmarks
1339 \fi
1340 \HyPsd@CJKhook@unicode
1341 }{}%
1342 }

```

6.5.4 CJK bookmarks

\HyPsd@CJKhook Some internal commands of package cjk are redefined to avoid error messages. For a rudimental support of CJK bookmarks the active characters are redefined so that they print themselves.

After preprocessing of Big5 encoded data the following string for a double-byte character is emitted:

```
^^7f<arg1>^^7f<arg2>^^7f
```

<arg1> is the first byte in the range (always > 0x80); <arg2> is the second byte in decimal notation ($\geq 0x40$).

```

1343 \begingroup
1344 \catcode"7F=\active
1345 \toks@{%
1346   \let\CJK@ignorespaces\empty
1347   \def\CJK@char#1{\@gobbletwo}%
1348   \let\CJK@charx\@gobblefour
1349   \let\CJK@punctchar\@gobblefour
1350   \def\CJK@punctcharx#1{\@gobblefour}%
1351   \catcode"7F=\active
1352   \def^^7f#1^^7f#2^^7f{%
1353     \string #1\HyPsd@DecimalToOctal{#2}%
1354   }%
1355   % ... ?
1356   \ifHy@unicode
1357     \def\Hy@cjkpu{\80}%
1358   \else
1359     \let\Hy@cjkpu\@empty
1360 \fi
1361 \HyPsd@CJKActiveChars
1362 }%
1363 \count@=127 %
1364 \@whilenum\count@<255 \do{%
1365   \advance\count@ by 1 %
1366   \lccode'\-=\count@
1367   \lowercase{%
1368     \toks@\expandafter{\the\toks@ ~}%
1369   }%
1370 }%

```

```

1371 \toks@\expandafter{\the\toks@ !}%
1372 \xdef\HyPsd@CJKhook@bookmarks{%
1373   \the\toks@
1374 }%
1375 \endgroup

```

\HyPsd@CJKActiveChars The macro \HyPsd@CJKActiveChars is only defined to limit the memory consumption of \HyPsd@CJKhook.

```

1376 \def\HyPsd@CJKActiveChars#1{%
1377   \ifx#1!%
1378     \let\HyPsd@CJKActiveChars\relax
1379   \else
1380     \edef#1{\noexpand\Hy@cjku\string#1}%
1381   \fi
1382   \HyPsd@CJKActiveChars
1383 }

```

\HyPsd@DecimalToOctal A character, given by the decimal number is converted to a PDF character.

```

1384 \def\HyPsd@DecimalToOctal#1{%
1385   \ifcase #1 %
1386     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1387     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1388     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1389     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1390     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1391     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1392     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1393     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1394     \or @\or A\or B\or C\or D\or E\or F\or G%
1395     \or H\or I\or J\or K\or L\or M\or N\or O%
1396     \or P\or Q\or R\or S\or T\or U\or V\or W%
1397     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1398     \or \140\or a\or b\or c\or d\or e\or f\or g%
1399     \or h\or i\or j\or k\or l\or m\or n\or o%
1400     \or p\or q\or r\or s\or t\or u\or v\or w%
1401     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1402     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1403     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1404     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1405     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1406     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1407     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1408     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1409     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1410     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1411     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1412     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1413     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1414     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1415     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%

```

```

1416 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1417 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1418 \fi
1419 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1420 \def\HyPsd@CJKhook@unicode{%
1421 \let\Unicode\HyPsd@CJK@Unicode
1422 \let\CJKnumber\HyPsd@CJKnumber
1423 \let\CJKdigits\HyPsd@CJKdigits
1424 }

```

\HyPsd@CJK@Unicode

```

1425 \def\HyPsd@CJK@Unicode#1#2{%
1426 \ifnum#1<256 %
1427 \HyPsd@DecimalToOctalFirst{#1}%
1428 \HyPsd@DecimalToOctalSecond{#2}%
1429 \else
1430 \933%
1431 \expandafter\expandafter\expandafter\HyPsd@HighA
1432 \intcalcDiv{#1}{4}!%
1433 \933%
1434 \ifcase\intcalcMod{#1}{4} %
1435 4\or 5\or 6\or 7%
1436 \fi
1437 \HyPsd@DecimalToOctalSecond{#2}%
1438 \fi
1439 }

1440 \def\HyPsd@HighA#1!{%
1441 \expandafter\expandafter\expandafter\HyPsd@HighB
1442 \IntCalcDiv#1!64!!%
1443 \expandafter\expandafter\expandafter\HyPsd@HighD
1444 \IntCalcMod#1!64!!%
1445 }

1446 \def\HyPsd@HighB#1!{%
1447 \expandafter\expandafter\expandafter\HyPsd@HighC
1448 \IntCalcDec#1!!%
1449 }

1450 \def\HyPsd@HighC#1!{%
1451 \IntCalcDiv#1!4!%
1452 \@backslashchar
1453 \IntCalcMod#1!4!%
1454 }

1455 \def\HyPsd@HighD#1!{%
1456 \ifcase\IntCalcDiv#1!8! %
1457 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1458 \fi

```

```

1459 \ifcase\IntCalcMod#1!8! %
1460 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1461 \fi
1462 }
1463 \def\HyPsd@DecimalToOctalFirst#1{%
1464 \9%
1465 \ifcase#1 %
1466 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1467 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1468 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1469 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1470 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1471 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1472 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1473 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1474 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1475 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1476 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1477 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1478 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1479 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1480 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1481 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1482 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1483 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1484 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1485 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1486 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1487 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1488 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1489 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1490 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1491 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1492 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1493 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1494 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1495 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1496 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1497 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1498 \fi
1499 }
1500 \def\HyPsd@DecimalToOctalSecond#1{%
1501 \ifcase #1 %
1502 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1503 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1504 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1505 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1506 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1507 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1508 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%

```

```

1509 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1510 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1511 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1512 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1513 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1514 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1515 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1516 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1517 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1518 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1519 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1520 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1521 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1522 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1523 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1524 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1525 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1526 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1527 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1528 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1529 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1530 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1531 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1532 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1533 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1534 \fi
1535 }

1536 \def\HyPsd@CJKnumber#1{%
1537 \ifnum#1<\z@
1538 \CJK@minus
1539 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1540 \else
1541 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1542 \fi
1543 }

1544 \def\HyPsd@@CJKnumber#1{%
1545 \ifcase#1 %
1546 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1547 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1548 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1549 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1550 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1551 \CJK@ten\CJK@nine
1552 \else
1553 \ifnum#1<10000 %
1554 \HyPsd@CJKnumberFour#1!\@empty{20}%
1555 \@empty
1556 \else
1557 \ifnum#1<100000000 %

```

```

1558     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1559         \IntCalcDiv#1!10000!%
1560     !}{20}%
1561     \CJK@tenthousand
1562     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1563         \IntCalcMod#1!10000!%
1564     !\CJK@zero{10}%
1565     \@empty
1566 \else
1567     \expandafter\HyPsd@CJKnumberLarge
1568         \number\IntCalcDiv#1!100000000!\expandafter!%
1569         \number\IntCalcMod#1!100000000!!%
1570     \fi
1571 \fi
1572 \fi
1573 }
1574 \def\HyPsd@CJKnumberLarge#1!#2!{%
1575     \HyPsd@CJKnumberFour#1!}{20}%
1576     \CJK@hundredmillion
1577     \ifnum#2=\z@
1578 \else
1579     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1580         \IntCalcDiv#2!10000!%
1581     !\CJK@zero{10}%
1582     \CJK@tenthousand
1583     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1584         \IntCalcMod#2!10000!%
1585     !\CJK@zero{10}%
1586     \@empty
1587 \fi
1588 }
1589 \def\HyPsd@CJKnumberFour#1!#2#3{%
1590     \ifnum#1=\z@
1591         \expandafter\@gobble
1592     \else
1593         \ifnum#1<1000 %
1594             #2%
1595             \HyPsd@CJKnumberThree#1!}{#3}%
1596         \else
1597             \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1598             \CJK@thousand
1599             \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1600                 \IntCalcMod#1!1000!%
1601             !\CJK@zero{10}%
1602         \fi
1603     \fi
1604 }
1605 \def\HyPsd@CJKnumberThree#1!#2#3{%
1606     \ifnum#1=\z@
1607     \else

```

```

1608 \ifnum#1<100 %
1609   #2%
1610   \HyPsd@CJKnumberTwo#1!#{#3}%
1611 \else
1612   \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1613   \CJK@hundred
1614   \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1615   \IntCalcMod#1!100!%
1616   !\CJK@zero{10}%
1617 \fi
1618 \fi
1619 }
1620 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1621   \ifnum#1=\z@
1622   \else
1623     \ifnum#1<#3 %
1624       #2%
1625       \HyPsd@@CJKnumber{#1}%
1626     \else
1627       \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1628       \CJK@ten
1629       \ifnum\IntCalcMod#1!10!=\z@
1630       \else
1631         \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1632       \fi
1633     \fi
1634   \fi
1635 }
1636 \def\HyPsd@CJKdigits#1{%
1637   \ifx*#1\relax
1638     \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1639   \else
1640     \HyPsd@@CJKdigits\CJK@null{#1}%
1641   \fi
1642 }
1643 \def\HyPsd@@CJKdigits#1#2{%
1644   \ifx\#2\%
1645   \else
1646     \HyPsd@@@CJKdigits#1#2\@nil
1647   \fi
1648 }%
1649 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1650   \HyPsd@CJKdigit#1{#2}%
1651   \ifx\#3\%
1652     \expandafter\@gobble
1653   \else
1654     \expandafter\@firstofone
1655   \fi
1656   {%

```

```

1657 \HyPsd@@@CJKdigits#1#3\@nil
1658 }%
1659 }
1660 \def\HyPsd@CJKdigit#1#2{%
1661 \ifcase#2 %
1662 #1\or
1663 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1664 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1665 \fi
1666 }

```

6.5.6 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with \LaTeX 2 ϵ versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows (\LaTeX 2 ϵ release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` (`=\relax`).

```

\def\@current@cmd#1{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname ?\string#1\endcsname\relax
        \expandafter\def\csname ?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%

```



```

Command \protect#1 unavailable in encoding \cf@encoding%
}\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

1667 \def\HyPsd@inmathwarn#1#2{%
1668   \ifx#2\expandafter
1669     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1670       \HyPsd@GLYPHERR
1671     \expandafter\@gobble\string#1%
1672     >%
1673     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1674   \else
1675     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1676   \fi
1677 \else
1678   \expandafter#2%
1679 \fi
1680 }
1681 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1682 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1683 \def\HyPsd@add@accent#1#2{%
1684   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1685   #2%
1686 }%

```

6.5.7 Unexpandable spaces

\HyPsd@LetUnexpandableSpace In \HyPsd@@ProtectSpaces the space tokens are replaced by not expandable commands, that work like spaces:

- So they can be caught by undelimited arguments.
- And they work in number, dimen, and skip assignments.

These properties are used in \HyPsd@CheckCatcodes.

```

1687 \def\HyPsd@LetUnexpandableSpace#1{%
1688   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1689 }

```

\HyPsd@UnexpandableSpace \HyPsd@UnexpandableSpace is used in \HyPsd@@ProtectSpaces. In \HyPsd@@ProtectSpaces the space tokens are replaced by unexpandable commands \HyPsd@UnexpandableSpace, but that have the effect of spaces.

```

1690 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

`\HyPsd@XSPACE` Some commands and informations cannot be utilized before the string expansion
`\HyPsd@ITALCORR` and the checking process. Command names are filtered out, so we need another
`\HyPsd@GLYPHERR` way to transport the information: An unusual `#` with catcode 12 marks the
beginning of the extra information.

```
1691 \edef\HyPsd@XSPACE{\string#\string X}
1692 \edef\HyPsd@ITALCORR{\string#\string I}
1693 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1694 \def\HyPsd@hspace#1{\HyPsd@hspace#1*\END}
```

`\HyPsd@@hspace` `\HyPsd@@hspace` checks whether `\hspace` is called in its star form.

```
1695 \def\HyPsd@@hspace#1*#2\END{%
1696   \ifx\#2\%
1697     \HyPsd@hspacetest{#1}%
1698   \else
1699     \expandafter\HyPsd@hspacetest
1700   \fi
1701 }
```

`\HyPsd@hspacetest` `\HyPsd@hspacetest` replaces the `\hspace` by a space, if the length is greater than zero.

```
1702 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1703 \ltx@ifundefined{tocsection}{%
1704   \let\HyPsd@AMSclassfix\relax
1705 }{%
1706   \def\HyPsd@AMSclassfix{%
1707     \let\tocpart\HyPsd@tocsection
1708     \let\tocchapter\HyPsd@tocsection
1709     \let\tocappendix\HyPsd@tocsection
1710     \let\tocsection\HyPsd@tocsection
1711     \let\tocsubsection\HyPsd@tocsection
1712     \let\tocsubsubsection\HyPsd@tocsection
1713     \let\tocparagraph\HyPsd@tocsection
1714   }%
1715   \def\HyPsd@tocsection#1#2#3{%
1716     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1717     #3%
1718   }%
1719 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1720 \def\HyPsd@href#1#{\@secondoftwo}
```

`\HyPsd@ref` Macro `\HyPsd@ref` calls the macro `\HyPsd@@@ref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```
1721 \def\HyPsd@ref#1{\HyPsd@@@ref#1*\END}%
```

`\HyPsd@@@ref` Macro `\HyPsd@@@ref` checks if a star is present.

```
1722 \def\HyPsd@@@ref#1*#2\END{%
1723   \ifx\#2\%
1724     \HyPsd@@@ref{#1}%
1725   \else
1726     \expandafter\HyPsd@@@ref
1727   \fi
1728 }%
```

`\HyPsd@@@ref` `\HyPsd@@@ref` does the work and extracts the first argument.

```
1729 \def\HyPsd@@@ref#1{%
1730   \expandafter\ifx\csname r@#1\endcsname\relax
1731     ??%
1732   \else
1733     \expandafter\expandafter\expandafter
1734     \@car\csname r@#1\endcsname\@nil
1735   \fi
1736 }
```

`\HyPsd@pageref` Macro `\HyPsd@pageref` calls the macro `\HyPsd@@@pageref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```
1737 \def\HyPsd@pageref#1{\HyPsd@@@pageref#1*\END}
```

`\HyPsd@@@pageref` Macro `\HyPsd@@@pageref` checks if a star is present.

```
1738 \def\HyPsd@@@pageref#1*#2\END{%
1739   \ifx\#2\%
1740     \HyPsd@@@pageref{#1}%
1741   \else
1742     \expandafter\HyPsd@@@pageref
1743   \fi
1744 }
```

`\HyPsd@@@pageref` `\HyPsd@@@pageref` does the work and extracts the second argument.

```
1745 \def\HyPsd@@@pageref#1{%
1746   \expandafter\ifx\csname r@#1\endcsname\relax
1747     ??%
1748   \else
1749     \expandafter\expandafter\expandafter\expandafter
1750     \expandafter\expandafter\expandafter\@car
1751     \expandafter\expandafter\expandafter\@gobble
```

```

1752 \csname r@#1\endcsname{}\@nil
1753 \fi
1754 }

```

`\HyPsd@nameref` Macro `\HyPsd@nameref` calls the macro `\HyPsd@@nameref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1755 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

`\HyPsd@@nameref` Macro `\HyPsd@@nameref` checks if a star is present.

```

1756 \def\HyPsd@@nameref#1*#2\END{%
1757 \ifx\#2\%
1758 \HyPsd@@@nameref{#1}%
1759 \else
1760 \expandafter\HyPsd@@@nameref
1761 \fi
1762 }

```

`\HyPsd@@@nameref` `\HyPsd@@@nameref` does the work and extracts the third argument.

```

1763 \def\HyPsd@@@nameref#1{%
1764 \expandafter\ifx\csname r@#1\endcsname\relax
1765 ??%
1766 \else
1767 \expandafter\expandafter\expandafter\expandafter
1768 \expandafter\expandafter\expandafter\@car
1769 \expandafter\expandafter\expandafter\@gobbletwo
1770 \csname r@#1\endcsname{}\}\@nil
1771 \fi
1772 }

```

`\HyPsd@autoref` Macro `\HyPsd@autoref` calls the macro `\HyPsd@@autoref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1773 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

`\HyPsd@@autoref` Macro `\HyPsd@@autoref` checks if a star is present.

```

1774 \def\HyPsd@@autoref#1*#2\END{%
1775 \ifx\#2\%
1776 \HyPsd@@@autoref{#1}%
1777 \else
1778 \expandafter\HyPsd@@@autoref
1779 \fi
1780 }

```

`\HyPsd@@@autoref` `\HyPsd@@@autoref` does the work and extracts the second argument.

```

1781 \def\HyPsd@@@autoref#1{%
1782 \expandafter\ifx\csname r@#1\endcsname\relax
1783 ??%
1784 \else
1785 \expandafter\expandafter\expandafter\HyPsd@autorefname
1786 \csname r@#1\endcsname{}\}\}\@nil

```

```

1787 \expandafter\expandafter\expandafter
1788 \@car\csname r@#1\endcsname\@nil
1789 \fi
1790 }

```

`\HyPsd@autorefname` At least a basic definition for getting the `\autoref` name.

```

1791 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1792 \ifx\#4\%
1793 \else
1794 \HyPsd@@autorefname#4.\@nil
1795 \fi
1796 }

```

`\HyPsd@@autorefname`

```

1797 \def\HyPsd@@autorefname#1.#2\@nil{%
1798 \ltx@ifundefined{#1autorefname}{%
1799 \ltx@ifundefined{#1name}{%
1800 }{%
1801 \csname#1name\endcsname\space
1802 }%
1803 }{%
1804 \csname#1autorefname\endcsname\space
1805 }%
1806 }

```

6.5.12 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would cause TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: `\csname` does the job, it defines the command to be `\relax`, if it has no meaning.

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

`\HyPsd@DefCommand` and `\HyPsd@LetCommand` expands to the commands `\<def>-command` and `\<let>-command` with the meaning of `\def` and `\let`. So it is detected by `\HyPsd@CheckCatcodes` and the command name `\<def>-command` or `\<let>-command` should indicate a forbidden definition command.

The command to be defined is converted to a string and back to a command name with the help of `\csname`. If the command is already defined, `\noexpand` prevents a further expansion, even though the command would expand to legal stuff. If the command doesn't have the meaning of `\relax`, `\HyPsd@CheckCatcodes` will produce a warning. (The command itself can be legal, but the warning is legitimate because of the position after a defining command.)

The difference between `\HyPsd@DefCommand` and `\HyPsdLetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

To avoid unmached `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1807 \begingroup
1808 \def\x#1#2{%
1809 \endgroup
1810 \let#1\def
1811 \def\HyPsd@DefCommand##1##2###{%
1812 #1%
1813 \expandafter\noexpand
1814 \csname\expandafter\@gobble\string##1\@empty\endcsname
1815 \@gobble
1816 }%
1817 \let#2\let
1818 \def\HyPsd@@LetCommand##1{%
1819 \expandafter\ifx\csname##1\expandafter\endcsname
1820 \csname iftrue\endcsname
1821 \pdfstringdefWarn\let
1822 \expandafter\@gobble
1823 \else
1824 \expandafter\ifx\csname##1\expandafter\endcsname
1825 \csname iffalse\endcsname
1826 \pdfstringdefWarn\let
1827 \expandafter\expandafter\expandafter\@gobble
1828 \else
1829 #2%
1830 \expandafter\noexpand
1831 \csname##1\expandafter\expandafter\expandafter\endcsname
1832 \fi
1833 \fi
1834 }%
1835 }%
1836 \expandafter\x\csname <def>-command\expandafter\endcsname
1837 \csname <let>-command\endcsname
1838 \def\HyPsd@LetCommand#1{%
1839 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1840 \expandafter\expandafter\expandafter{%
1841 \expandafter\@gobble\string#1\@empty
1842 }%
1843 }

```

6.5.13 \ifnextchar

`\HyPsd@ifnextchar` In `\pdfstringdef \@ifnextchar` is disabled via a `\let` command to save time. First a warning message is given, then the three arguments are canceled. `\@ifnextchar` cannot work in a correct manner, because it uses `\futurelet`, but this is a stomach feature, that doesn't work in an expanding context. There are several variants of `\@ifnextchar`:

- `\@ifnextchar`
- `\kernel@ifnextchar`
- `\new@ifnextchar` from package `amsgen.sty` (bug report latex/3662).

```
1844 \def\HyPsd@ifnextchar#1{%
1845   \pdfstringdefWarn#1%
1846   \expandafter\@gobbletwo\@gobble
1847 }
```

6.5.14 \@protected@testoptifnextchar

`\HyPsd@protected@testopt` Macros with optional arguments doesn't work properly, because they call `\@ifnextchar` to detect the optional argument (see the explanation of `\HyPsd@ifnextchar`). But a warning, that `\@ifnextchar` doesn't work, doesn't help the user very much. Therefore `\@protected@testopt` is also disabled, because its first argument is the problematic macro with the optional argument and it is called before `\@ifnextchar`.

```
1848 \def\HyPsd@protected@testopt#1{%
1849   \pdfstringdefWarn#1%
1850   \@gobbletwo
1851 }
```

6.6 Help macros for postprocessing

6.6.1 Generic warning.

`\HyPsd@Warning` For several reasons `\space` is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

```
1852 \def\HyPsd@Warning#1{%
1853   \begingroup
1854   \let\space\ltx@space
1855   \Hy@Warning{#1}%
1856   \endgroup
1857 }
```

6.6.2 Protecting spaces

```
1858 \RequirePackage{etexcmds}[2007/09/09]
1859 \ifetex@unexpanded
1860   \expandafter\@secondoftwo
```

```

1861 \else
1862 \expandafter\@firstoftwo
1863 \fi
1864 {%

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

1865 \def\HyPsd@ProtectSpaces#1{%
1866 \iftrue
1867 \expandafter\HyPsd@@ProtectSpacesFi
1868 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1869 \fi
1870}%

```

`\HyPsd@@ProtectSpacesFi` The string can contain command tokens, so it is better to use an `\def` instead of an `\edef`.

```

1871 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1872 \fi
1873 \ifx\scrollmode#2\scrollmode
1874 \HyPsd@RemoveMask#1\HyPsd@End#3%
1875 \else
1876 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1877 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1878 \fi
1879}%

```

Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

1880 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1881 \toks@\expandafter{#1}%
1882 \xdef#2{\the\toks@}%
1883}%

1884}%
1885 \let\HyPsd@fi\fi
1886 \def\HyPsd@ProtectSpaces#1{%
1887 \xdef#1{%
1888 \iftrue
1889 \expandafter\HyPsd@@ProtectSpacesFi
1890 \expandafter|\expandafter\@empty#1| %
1891 \HyPsd@fi
1892}%
1893 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%

```



```

1894 }%
1895 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1896   \fi
1897   \etex@unexpanded{#1}%
1898   \ifx\scrollmode#2\scrollmode
1899   \else
1900     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1901   \HyPsd@fi
1902 }%
1903 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1904   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1905 }%
1906 }

```

6.6.3 Remove grouping braces

`\HyPsd@RemoveBraces` **#1** contains the expanded string, the result will be locally written in command `\HyPsd@String`.

```

1907 \def\HyPsd@RemoveBraces#1{%
1908   \ifx\scrollmode#1\scrollmode
1909   \else
1910     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1911   \fi
1912 }

```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text **#1#2**. By a comparison with the original form in **#3** we can decide whether **#1** is a single token or a group. To avoid the case that **#2** is a group, the string is extended by a `|` before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\ltx@ReturnAfterFi`.

```

1913 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1914   \fi
1915   \def\Hy@temp@A{#1#2}%
1916   \def\Hy@temp@B{#3}%
1917   \ifx\Hy@temp@A\Hy@temp@B
1918     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1919       \HyPsd@String#1%
1920     }%
1921   \ifx\scrollmode#2\scrollmode
1922   \else
1923     \Hy@ReturnAfterFiFiEnd{%
1924       \HyPsd@RemoveBraces{#2}%
1925     }%

```

```

1926 \fi
1927 \else
1928 \def\Hy@temp@A{#1}%
1929 \HyPsd@AppendItalcorr\HyPsd@String
1930 \ifx\Hy@temp@A\@empty
1931 \Hy@ReturnAfterElseFiFiEnd{%
1932 \HyPsd@RemoveBraces{#2}%
1933 }%
1934 \else
1935 \HyPsd@ProtectSpaces\Hy@temp@A
1936 \HyPsd@AppendItalcorr\Hy@temp@A
1937 \Hy@ReturnAfterFiFiEnd{%
1938 \expandafter\HyPsd@RemoveBraces\expandafter
1939 {\Hy@temp@A#2}%
1940 }%
1941 \fi
1942 \fi
1943 \Hy@ReturnEnd
1944 }

```

\HyPsd@AppendItalcorr The string can contain commands yet, so it is better to use `\def` instead of a
\HyPsd@@AppendItalcorr shorter `\edef`. The two help macros limit the count of `\expandafter`.

```

1945 \def\HyPsd@AppendItalcorr#1{%
1946 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1}%
1947 }
1948 \def\HyPsd@@AppendItalcorr#1#2{%
1949 \expandafter\def\expandafter#2\expandafter{#2#1}%
1950 }

```

6.6.4 Catcode check

Workaround for LuaTeX. `\HyPsd@CheckCatcodes` might trigger a bug of LuaTeX (0.60.2, 0.70.1, 0.70.2, ...) in the comparison with `\ifcat`, see <http://tracker.luatex.org/view.php?id=773>.

```

1951 \ltx@ifundefined{directlua}{%
1952 }{%
1953 \expandafter\ifx\csname\endcsname\relax\fi
1954 }

```

Check catcodes.

\HyPsd@CheckCatcodes Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting spaces and removing braces `#1` should be a single token, no group of several tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the

meaning of `\protect` are removed here. (`\protect` should have the meaning of `\@typeset@protect` that is equal to `\relax`).

For the comparison with active characters, `~` cannot be used because it has the meaning of a blank space here. And active characters need to be checked, if they have been defined using `\protected`.

```

1955 \begingroup
1956 \catcode'\Q=\active
1957 \let Q\ltx@empty
1958 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1959 \global\let\HyPsd@Rest\relax
1960 \ifcat\relax\noexpand#1\relax
1961 \ifx#1\protect
1962 \else
1963 \ifx#1\penalty
1964 \setbox\z@=\hbox{%
1965 \afterassignment\HyPsd@AfterCountRemove
1966 \count@=#2\HyPsd@end
1967 }%
1968 \else
1969 \ifx#1\kern
1970 \setbox\z@=\hbox{%
1971 \afterassignment\HyPsd@AfterDimenRemove
1972 \dimen@=#2\HyPsd@end
1973 }%
1974 \else
1975 \ifx#1\hskip
1976 \setbox\z@=\hbox{%
1977 \afterassignment\HyPsd@AfterSkipRemove
1978 \skip@=#2\HyPsd@end
1979 }%
1980 \else
1981 \HyPsd@CatcodeWarning{#1}%
1982 \fi
1983 \fi
1984 \fi
1985 \fi
1986 \else
1987 \ifcat\noexpand#1\noexpandQ% active character
1988 \expandafter\expandafter\expandafter\def
1989 \expandafter\expandafter\expandafter\HyPsd@String
1990 \expandafter\expandafter\expandafter{%
1991 \expandafter\HyPsd@String\string#1%
1992 }%
1993 \else
1994 \ifcat#1A% letter
1995 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1996 \HyPsd@String#1%
1997 }%
1998 \else

```

```

1999      \ifcat#1 % SPACE
2000      \expandafter\def\expandafter\HyPsd@String\expandafter{%
2001          \HyPsd@String\HyPsd@SPACEOPTI
2002      }%
2003      \else
2004      \ifcat$#1%
2005          \HyPsd@CatcodeWarning{math shift}%
2006      \else
2007      \ifcat&#1%
2008          \HyPsd@CatcodeWarning{alignment tab}%
2009      \else
2010      \ifcat^#1%
2011          \HyPsd@CatcodeWarning{superscript}%
2012      \else
2013      \ifcat_#1%
2014          \HyPsd@CatcodeWarning{subscript}%
2015      \else
2016      \expandafter\def\expandafter\HyPsd@String\expandafter{%
2017          \HyPsd@String#1%
2018      }%
2019      \fi
2020      \fi
2021      \fi
2022      \fi
2023      \fi
2024      \fi
2025      \fi
2026      \fi
2027      \ifx\HyPsd@Rest\relax
2028      \ifx\scrollmode#2\scrollmode
2029      \else
2030      \Hy@ReturnAfterFiFiEnd{%
2031          \HyPsd@CheckCatcodes#2\HyPsd@end
2032      }%
2033      \fi
2034      \else
2035      \ifx\HyPsd@Rest\@empty
2036      \else
2037      \Hy@ReturnAfterFiFiEnd{%
2038          \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@end
2039      }%
2040      \fi
2041      \fi
2042      \Hy@ReturnEnd
2043      }%
2044      \endgroup

```

Remove counts, dimens, skips.

`\HyPsd@AfterCountRemove` Counts like `\penalty` are removed silently.

```

2045 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
2046   \gdef\HyPsd@Rest{#1}%
2047 }

```

`\HyPsd@AfterDimenRemove` If the value of the `dimen` (`\kern`) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than `1ex` with a space and removes them else.

```

2048 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
2049   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2050     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2051     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2052   \else
2053     \ifdim\dimen@=\z@
2054     \else
2055       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2056     \fi
2057   \gdef\HyPsd@Rest{#1}%
2058 \fi
2059 }

```

`\HyPsd@AfterSkipRemove` The glue part of skips do not work in PDF strings and are ignored. Skips (`\hskip`), that are not zero, have the same interpreting problems like `dimens` (see above).

```

2060 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
2061   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
2062     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
2063     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2064   \else
2065     \ifdim\skip@=\z@
2066     \else
2067       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2068     \fi
2069   \gdef\HyPsd@Rest{#1}%
2070 \fi
2071 }

```

Catcode warnings.

`\HyPsd@CatcodeWarning` `\HyPsd@CatcodeWarning` produces a warning for the user.

```

2072 \def\HyPsd@CatcodeWarning#1{%
2073   \HyPsd@Warning{%
2074     Token not allowed in a PDF string (%
2075     \ifHy@unicode
2076       Unicode%
2077     \else
2078       PDFDocEncoding%
2079     \fi
2080   ):%

```

```

2081 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2082 }%
2083 }
2084 \begingroup
2085 \catcode'\|=0 %
2086 \catcode'\|=12 %
2087 \gdef\HyPsd@RemoveCmdPrefix#1{%
2088   \expandafter\HyPsd@@RemoveCmdPrefix
2089   \string#1|\@empty\<>-|\@empty|\@empty
2090 }%
2091 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
2092 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

2093 \def\HyPsd@RemoveSpaceWarning#1{%
2094   \HyPsd@Warning{%
2095     Token not allowed in a PDF string (%
2096     \ifHy@unicode
2097       Unicode%
2098     \else
2099       PDFDocEncoding%
2100     \fi
2101   ):%
2102   \MessageBreak #1\MessageBreak
2103   removed%
2104 }%
2105 }

```

\HyPsd@ReplaceSpaceWarning

```

2106 \def\HyPsd@ReplaceSpaceWarning#1{%
2107   \HyPsd@Warning{%
2108     Token not allowed in a PDF string (%
2109     \ifHy@unicode
2110       Unicode%
2111     \else
2112       PDFDocEncoding%
2113     \fi
2114   ):%
2115   \MessageBreak #1\MessageBreak
2116   replaced by space%
2117 }%
2118 }

```

6.6.5 Check for wrong glyphs

A wrong glyph is marked with \relax, the glyph name follows, delimited by >. \@empty ends the string.

```

2119 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2120   \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

2121 \HyPsd@String#1%
2122 }%
2123 \ifx\\#2\\%
2124 \else
2125 \ltx@ReturnAfterFi{%
2126 \HyPsd@GlyphProcessWarning#2\@empty
2127 }%
2128 \fi
2129 }
2130 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2131 \HyPsd@@GlyphProcessWarning#1++>%
2132 \HyPsd@GlyphProcess#2\@empty
2133 }
2134 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2135 \ifx\\#2\\%
2136 \HyPsd@Warning{%
2137 Glyph not defined in %
2138 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2139 removing '@backslashchar#1'%
2140 }%
2141 \else
2142 \HyPsd@Warning{%
2143 Composite letter '@backslashchar#1+#2'\MessageBreak
2144 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2145 \MessageBreak
2146 removing '@backslashchar#1'%
2147 }%
2148 \fi
2149 }

```

Spaces.

`\HyPsd@spaceopti` In the string the spaces are represented by `\HyPsd@spaceopti` tokens. Within an `\edef` it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next `\HyPsd@spaceopti` by an protected space `\040`.

```

2150 \def\HyPsd@spaceopti#1{ % first space
2151 \ifx\HyPsd@spaceopti#1%
2152 \040%
2153 \else
2154 #1%
2155 \fi
2156 }%

```

6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is an wrapper for the command `\HyPsd@Subst` that does all the work: In string stored in command `#3` it replaces the tokens `#1`

with #2.

- #1 Exact the tokens that should be replaced.
- #2 The replacement (don't need to be expanded).
- #3 Command with the string.

```

2157 \def\HyPsd@Subst#1#2#3{%
2158 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2159 \fi
2160 ##1%
2161 \ifx\scrollmode##2\scrollmode
2162 \else
2163 #2%
2164 \HyPsd@@ReplaceFi##2\END
2165 \fi
2166 }%
2167 \xdef#3{%
2168 \iftrue
2169 \expandafter\HyPsd@@ReplaceFi#3#1\END
2170 \fi
2171 }%
2172 }

```

`\HyPsd@StringSubst` To save tokens in `\pdfstringdef \HyPsd@StringSubst` is a wrapper, that expands argument #1 before calling `\HyPsd@Subst`.

```

2173 \def\HyPsd@StringSubst#1{%
2174 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2175 }

```

`\HyPsd@EscapeTeX`

```

2176 \begingroup
2177 \lccode'\!='\%%
2178 \lccode'\|='\%%
2179 \lccode'\(=\{\%
2180 \lccode'\)=\}%
2181 \lccode'0=\ltx@zero
2182 \lccode'1=\ltx@zero
2183 \lccode'3=\ltx@zero
2184 \lccode'4=\ltx@zero
2185 \lccode'5=\ltx@zero
2186 \lccode'7=\ltx@zero
2187 \lowercase{\endgroup
2188 \def\HyPsd@EscapeTeX#1{%
2189 \HyPsd@Subst!{|045}#1%
2190 \HyPsd@Subst({|173}#1%
2191 \HyPsd@Subst){|175}#1%
2192 }%
2193 }

```


6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in \TeX 's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused `\@xspace`, but this version is shorter and easier to understand.

```

2194 \def\HyPsd@doxspace#1{%
2195   \ifx#1\relax\else
2196     \ifx#1.\else
2197       \ifx#1:\else
2198         \ifx#1,\else
2199           \ifx#1;\else
2200             \ifx#1!\else
2201               \ifx#1?\else
2202                 \ifx#1/\else
2203                   \ifx#1-\else
2204                     \ifx#1'\else
2205                       \HyPsd@SPACEOPTI
2206                     \fi
2207                   \fi
2208                 \fi
2209               \fi
2210             \fi
2211           \fi
2212         \fi
2213       \fi
2214     \fi
2215   \fi
2216   #1%
2217 }%
```

6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, `\8` is replaced by `\00`, and `\9` is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.

```

2218 \begingroup
2219 \catcode'\|=0 %
2220 \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```

2221 |gdef|HyPsd@ConvertToUnicode#1{%
2222   |xdef#1{%
2223     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2224   }%
2225   |ifx#1|@empty
2226   |else
2227     |xdef#1{%
2228       \376\377%
```

```

2229     #1%
2230 }%
2231 |fi
2232 }%

```

\HyPsd@DoConvert

```

2233 |gdef|HyPsd@DoConvert#1{%
2234 |ifx#1|@empty
2235 |else
2236 |ltx@ReturnAfterFi{%
2237 |ifx#1\%%
2238 \%%
2239 |expandafter|HyPsd@DoEscape
2240 |else
2241 |HyPsd@Char{#1}%
2242 |expandafter|HyPsd@DoConvert
2243 |fi
2244 }%
2245 |fi
2246 }%

```

\HyPsd@DoEscape

```

2247 |gdef|HyPsd@DoEscape#1{%
2248 |ifx#19%
2249 |expandafter|HyPsd@GetTwoBytes
2250 |else
2251 |ltx@ReturnAfterFi{%
2252 |ifx#18%
2253 00%
2254 |expandafter|HyPsd@GetTwoBytes
2255 |else
2256 #1%
2257 |expandafter|HyPsd@GetOneByte
2258 |fi
2259 }%
2260 |fi
2261 }%

```

\HyPsd@GetTwoBytes

```

2262 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2263 #1\#2#3#4%
2264 |HyPsd@DoConvert
2265 }%

```

\HyPsd@GetOneByte

```

2266 |gdef|HyPsd@GetOneByte#1#2{%
2267 #1#2%
2268 |HyPsd@DoConvert
2269 }%
2270 |endgroup

```

\HyPsd@@GetNextTwoTokens TeX does only allow nine parameters, so we need another macro to get more arguments.

```

2271 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2272   \xdef#4{#4#1#2}%
2273   \HyPsd@@ConvertToUnicode#3\END#4%
2274 }

```

\HyPsd@Char

```

2275 \begingroup
2276   \catcode0=9 %
2277   \catcode'\^=7 %
2278   \catcode'\^^=12 %
2279   \def\x{^^^0000}%
2280 \expandafter\endgroup
2281 \ifx\x\@empty
2282   \def\HyPsd@Char#1{%
2283     \ifnum'#1<128 %
2284       \@backslashchar 000#1%
2285     \else
2286       \ifnum'#1<65536 %
2287         \expandafter\HyPsd@CharTwoByte\number'#1!%
2288       \else
2289         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2290         \intcalcSub{'#1}{65536}!%
2291       \fi
2292     \fi
2293   }%
2294   \def\HyPsd@CharTwoByte#1!{%
2295     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2296     \IntCalcDiv#1!256!!%
2297     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2298     \IntCalcMod#1!256!!%
2299   }%
2300   \def\HyPsd@CharOctByte#1!{%
2301     \@backslashchar
2302     \IntCalcDiv#1!64!%
2303     \intcalcDiv{\IntCalcMod#1!64!}{8}%
2304     \IntCalcMod#1!8!%
2305   }%
2306   \def\HyPsd@CharSurrogate#1!{%
2307     \@backslashchar 33%
2308     \IntCalcDiv#1!262144!%
2309     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2310     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2311     \@backslashchar 33%
2312     \expandafter\expandafter\expandafter\IntCalcAdd
2313     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2314     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2315     \IntCalcMod#1!256!!%

```

```

2316 }%
2317 \else
2318   \def\HyPsd@Char#1{%
2319     \@backslashchar 000#1%
2320   }%
2321 \fi

```

6.6.9 Support for UTF-8 input encoding

After `\usepackage[utf8]{inputenc}` there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

This calculation must be done in an expandable context, so we use `eTeX` here for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

`\numexpr 123/4\relax` is replaced by
`\number\dimexpr.25\dimexpr 123sp\relax\relax`

```

2322 \begingroup\expandafter\expandafter\expandafter\endgroup
2323 \expandafter\ifx\csname numexpr\endcsname\relax
2324   \let\HyPsd@UTFviii\relax
2325 \else
2326   \begingroup
2327     \lccode'\~='^f4\relax
2328   \lowercase{\endgroup
2329     \def\HyPsd@UTFviii{%
2330       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2331       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2332       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2333       \ifx~\HyPsd@UTFviii@ccxliv@undef
2334         \let~\HyPsd@UTFviii@ccxliv@def
2335       \fi
2336       \let\unichar\HyPsd@unichar
2337     }%
2338   }%
2339   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2340   \edef\HyPsd@UTFviii@ccxliv@def{%
2341     \noexpand\UTFviii@four@octets\string ^f4%
2342   }%

```

The two octet form of UTF-8 110aaabb (A) and 10ccddddd (B) must be converted into octal numbers 00a and bcd. The result is `\8a\bcd` (with a, b, c, d as octal numbers). The conversion equations.

$$a := A/4 - 48 \quad (1)$$

$$b := A - 4 * (A/4) \quad (2)$$

$$c := B/8 - 8 * ((8 * (B/8))/8) \quad (3)$$

$$d := B - 8 * (B/8) \quad (4)$$

(5)

```

2343 \def\HyPsd@UTFviii@two#1#2{%
2344 \expandafter\HyPsd@UTFviii@@two
2345 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2346 \number'#1\expandafter| %
2347 \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2348 \number'#2 \@nil
2349 }%
2350 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2351 \expandafter\8%
2352 \number\numexpr #1-48\expandafter\relax
2353 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2354 \number\numexpr #3-8*%
2355 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2356 \number\numexpr #4-8*#3\relax
2357 }%

```

Three octet form: 1110aabb (A), 10bccdd (B), and 10eeefff (C). The result is \9abc\def (with a, ..., f as octal numbers). The conversion equations:

$$a := A/4 - 56 \quad (6)$$

$$b := 2 * (A - 4 * (A/4)) + ((B - 128 < 32)?0 : 1) \quad (7)$$

$$c := B/4 - 32 - ((B - 128 < 32)?0 : 8) \quad (8)$$

$$d := B - 4 * (B/4) \quad (9)$$

$$e := C/8 - 16 \quad (10)$$

$$f := C - 8 * (C/8) \quad (11)$$

$$(12)$$

```

2358 \def\HyPsd@UTFviii@three#1#2#3{%
2359 \expandafter\HyPsd@UTFviii@@three
2360 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2361 \number'#1\expandafter| %
2362 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter| %
2363 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter| %
2364 \number'#2\expandafter| %
2365 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter| %
2366 \number'#3 \@nil
2367 }%
2368 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2369 \expandafter\9%
2370 \number\numexpr #1-56\expandafter\relax
2371 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2372 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2373 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2374 \number\numexpr #6-16\expandafter\relax
2375 \number\numexpr #7-8*#6\relax
2376 }%

```

Surrogates: 4 octets in UTF-8, a surrogate pair in UTF-16. High surrogate range: U+D800–U+DBFF, low surrogate range: U+DC00–U+DFFF.

```
UTF-8: 11110uuu 10uuzzzz 10yyyyyy 10xxxxxx
www = uuuu - 1
UTF-16: 110110ww wwzzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx
```

```
2377 \def\HyPsd@UTFviii@four#1#2{%
2378 \expandafter\HyPsd@@UTFviii@four\number
2379 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2380 \expandafter|\number
2381 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2382 }%
2383 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2384 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2385 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2386 \ifodd#2 %
2387 \number\numexpr(#2-1)/2\relax
2388 \else
2389 \number\numexpr#2/2\relax
2390 \fi
2391 \number\numexpr\ifodd#2 4+\fi
2392 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2393 \933%
2394 \expandafter\HyPsd@@@UTFviii@four\number
2395 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2396 }%
2397 \def\HyPsd@@@UTFviii@four#1|#2{%
2398 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2399 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2400 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2401 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2402 }%
```

Input encoding utf8x of package ucs uses macro \unichar. Values greater than "FFFF are not supported.

```
2403 \def\HyPsd@unichar#1{%
2404 \ifHy@unicode
2405 \ifnum#1>"10FFFF %
2406 \HyPsd@UnicodeReplacementCharacter % illegal
2407 \else
2408 \ifnum#1>"FFFF %
```

High-surrogate code point. ("D800 = 55296, \p@ = 1pt = 65536sp)

```
2409 \expandafter\HyPsd@unichar\expandafter{%
2410 \number\numexpr 55296+%
2411 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2412 \relax\relax\relax
2413 }%
```

Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)

```
2414 \expandafter\HyPsd@unichar\expandafter{%
2415 \number\numexpr#1-9216%
2416 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2417 \relax\relax\relax
2418 }%
2419 \else
2420 \ifnum#1>"7FF %
2421 \9%
2422 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2423 \number
2424 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2425 }%
2426 \else
2427 \8%
2428 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2429 \fi
2430 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2431 \number
2432 \numexpr#1-256*\number
2433 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2434 }%
2435 \fi
2436 \fi
2437 \else
2438 .% unsupported (Unicode -> PDF Doc Encoding)
2439 \fi
2440 }%
2441 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2442 \def\HyPsd@unichar@first@byte#1{%
2443 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2444 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2445 \number
2446 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2447 \relax\relax\relax
2448 }%
2449 }%
2450 \def\HyPsd@unichar@second@byte#1{%
2451 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2452 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2453 \number
2454 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2455 \relax\relax\relax
2456 }%
2457 }%
2458 \def\HyPsd@unichar@octtwo#1{%
2459 \number\dimexpr.125\dimexpr#1sp\relax\relax
2460 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2461 \relax\relax\relax
```

```

2462 }%
2463 \fi

```

`\HyPsd@Utf@viii@undeferr` `\utf@viii@undeferr` comes from file `utf8x.def` from package `ucs`.

```

2464 \def\HyPsd@Utf@viii@undeferr#1#2#3#4#5#6{%
2465   \ifx\@gobble#1%
2466   \else
2467     [Please insert \textbackslash PrerenderUnicode%
2468     \textbraceleft#1\textbraceright\space
2469     into preamble]%
2470   \fi
2471 }%

```

6.6.10 Support for die faces (ifsym et. al.)

`\HyPsd@DieFace` Die faces are provided by

Package	Macro
ifsym	<code>\Cube</code>
epsdice	<code>\epsdice</code>
hhcount	<code>\fcdice</code>

`\Cube` and `\epsdice` restrict the range to the numbers one to six. `\fcdice` generates for larger numbers several dice faces with the sum matching the number. The implementation for the PDF strings follows `\fcdice`.

```

2472 \def\HyPsd@DieFace#1{%
2473   \ifHy@unicode
2474   \ifnum#1<1 %
2475     \HyPsd@UnicodeReplacementCharacter
2476   \else
2477     \ifnum#1>6 %
2478       \9046\205%
2479       \expandafter\expandafter\expandafter
2480       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2481     \else
2482       \9046\20\intcalcDec{#1}%
2483     \fi
2484   \fi
2485 \else
2486   .% Die faces are not part of PDFDocEncoding
2487 \fi
2488 }

```

`\HyPsd@DieFaceLarge`

```

2489 \def\HyPsd@DieFaceLarge#1!{%
2490   \ifnum#1>6 %
2491     \expandafter\ltx@firstoftwo
2492   \else
2493     \expandafter\ltx@secondoftwo

```



```

2494 \fi
2495 {%
2496 \9046\205%
2497 \expandafter\expandafter\expandafter
2498 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2499 }{%
2500 \9046\20\IntCalcDec#1!%
2501 }%
2502 }

```

6.6.11 Support for moon phases of package china2e

```

2503 \def\HyPsd@MoonPha#1{%
2504 \ifcase\intcalcNum{#1} %
2505 \HyPsd@UnicodeReplacementCharacter
2506 \or % 1
2507 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2508 \9330\074\9337\032%
2509 \or % 2
2510 \HyPsd@UnicodeReplacementCharacter
2511 \or % 3
2512 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2513 \9330\074\9337\035%
2514 \or % 4
2515 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2516 \9330\074\9337\034%
2517 \else
2518 \HyPsd@UnicodeReplacementCharacter
2519 \fi
2520 }
2521 %* \HyPsd@MoonPha -> \MoonPha

```

6.6.12 Support for package pifont

\HyPsd@ding

```

2522 \def\HyPsd@ding#1{%
2523 \ifHy@unicode
2524 \ifnum#1<32 %
2525 \HyPsd@UnicodeReplacementCharacter
2526 \else
2527 \ifnum#1>254 %
2528 \HyPsd@UnicodeReplacementCharacter
2529 \else
2530 \ifnum#1<127 %
2531 \expandafter\expandafter\expandafter
2532 \HyPsd@@ding\intcalcNum{#1}!%
2533 \else
2534 \ifnum#1>160 %
2535 \expandafter\expandafter\expandafter
2536 \HyPsd@@ding\intcalcNum{#1}!%

```

```

2537         \else
2538             \HyPsd@UnicodeReplacementCharacter
2539         \fi
2540     \fi
2541 \fi
2542 \fi
2543 \else
2544 .% Dingbats are not part of PDFDocEncoding
2545 \fi
2546 }

```

\HyPsd@@ding

```

2547 \def\HyPsd@@ding#1!{%
2548 \ltx@ifundefined{HyPsd@ding@#1}{%
2549     \ifnum#1<127 %
2550         \9047%
2551         \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2552     \else
2553         \ifnum#1<168 %
2554             \9047\14\IntCalcSub#1!160!%
2555         \else
2556             \ifnum#1>181 %
2557                 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2558             \else
2559                 % 172..181 -> U+2460..U+2469
2560                 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2561             \fi
2562         \fi
2563     \fi
2564 }{%
2565     \csname HyPsd@ding@#1\endcsname
2566 }%
2567 }

2568 \@namedef{HyPsd@ding@32}{\space}
2569 % U+260E BLACK TELEPHONE
2570 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2571 % U+261B BLACK RIGHT POINTING INDEX
2572 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2573 % U+261E WHITE RIGHT POINTING INDEX
2574 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2575 % U+2605 BLACK STAR
2576 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2577 % U+25CF BLACK CIRCLE
2578 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2579 % U+25A0 BLACK SQUARE
2580 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2581 % U+25B2 BLACK UP-POINTING TRIANGLE
2582 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2583 % U+25BC BLACK DOWN-POINTING TRIANGLE

```

```

2584 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2585 % U+25C6 BLACK DIAMOND
2586 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2587 % U+25D7 RIGHT HALF BLACK CIRCLE
2588 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2589 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2590 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2591 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2592 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2593 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2594 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2595 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2596 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

7 Support of other packages

7.1 Class memoir

```

2597 \@ifclassloaded{memoir}{%
2598   \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2599 }{}

```

7.2 Package subfigure

Added fix for version 2.1. Here \sub@label is defined.

```

2600 \@ifpackageloaded{subfigure}{%
2601   \ltx@ifundefined{sub@label}{%
2602     \Hy@hypertextnamesfalse
2603   }{%
2604     \renewcommand*{\sub@label}[1]{%
2605       \@bsphack
2606       \subfig@oldlabel{#1}%
2607       \if@filesw
2608         \begingroup
2609         \edef\@currentlabstr{%
2610           \expandafter\strip@prefix\meaning\@currentlabelname
2611         }%
2612         \protected@write\@auxout{}{%
2613           \string\newlabel{sub@#1}{%
2614             {\@nameuse{\@thesub\@capttype}}%
2615             {\thepage}%
2616             {%
2617               \expandafter\strip@period\@currentlabstr
2618               \relax.\relax\@@@%
2619             }%
2620             {\@currentHref}%
2621             {}%
2622           }%
2623         }%

```

```

2624     \endgroup
2625     \fi
2626     \@esphack
2627 }%
2628 \@ifpackagelater{subfigure}{2002/03/26}{\}%
2629   \providecommand*{\toclevel@subfigure}{1}%
2630   \providecommand*{\toclevel@subtable}{1}%
2631 }%
2632 }%
2633 }{}

```

7.3 Package xr and xr-hyper

The beta version of xr that supports `\XR@addURL` is called **xr-hyper**. Therefore we test for the macro itself and not for the package name:

```

2634 \ltx@ifundefined{XR@addURL}{\}%
2635 }{}

```

If reading external aux files check whether they have a non zero fourth field in `\newlabel` and if so, add the URL as the fifth field.

```

2636 \def\xr@addURL#1{\xr@dURL#1{}{}{}{}\\}%
2637 \def\xr@dURL#1#2#3#4#5\\{\%
2638   {#1}{#2}%
2639   \if!#4!%
2640   \else
2641     {#3}{#4}{\xr@URL}%
2642   \fi
2643 }%
2644 }

2645 \def\Hy@true{true}
2646 \def\Hy@false{false}

```

Providing dummy definitions.

```

2647 \let\literalps@out\@gobble
2648 \newcommand\pdfbookmark[3]{}{}
2649 \def\Acrobatmenu#1#2{\leavevmode#2}
2650 \def\Hy@writebookmark#1#2#3#4#5{}%

```

8 Help macros for links

Anchors get created on the baseline of where they occur. If an XYZ PDF view is set, this means that the link places the top of the screen *on the baseline* of the target. If this is an equation, for instance, it means that you cannot see anything. Some links, of course, are created at the start of environments, and so it works. To allow for this, anchors are raised, where possible, by some small amount. This defaults to `\baselineskip`, but users can set it to something else in two ways (thanks to Heiko Oberdiek for suggesting this):

1. Redefine `\HyperRaiseLinkDefault` to be eg the height of a `\strut`
2. Redefine `\HyperRaiseLinkHook` to do something complicated; it must give a value to `\HyperRaiseLinkLength`, which is what actually gets used

```
2651 \let\HyperRaiseLinkHook\@empty
2652 \def\HyperRaiseLinkDefault{\baselineskip}
```

`\HyperRaiseLinkHook` allows the user to reassign `\HyperRaiseLinkLength`.

```
2653 \newcount\Hy@SavedSpaceFactor
2654 \def\Hy@SaveSpaceFactor{%
2655   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2656 }
2657 \def\Hy@RestoreSpaceFactor{%
2658   \relax
2659   \ifhmode
2660     \ifnum\Hy@SavedSpaceFactor>\z@
2661       \spacefactor=\Hy@SavedSpaceFactor
2662     \fi
2663   \fi
2664 }
2665 \def\Hy@SaveSavedSpaceFactor{%
2666   \edef\Hy@RestoreSavedSpaceFactor{%
2667     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2668   }%
2669 }
2670 \def\Hy@raisedlink#1{%
2671   \ifvmode
2672     #1%
2673   \else
2674     \Hy@SaveSpaceFactor
2675     \penalty\@M
2676     \smash{%
2677       \begingroup
2678         \let\HyperRaiseLinkLength\@tempdima
2679         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2680         \HyperRaiseLinkHook
2681         \expandafter\endgroup
2682         \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2683           \Hy@RestoreSpaceFactor
2684           #1%
2685           \Hy@SaveSpaceFactor
2686         }%
2687       }%
2688     \Hy@RestoreSpaceFactor
2689   \fi
2690 }
```

`\Hy@SaveLastskip` Inserting a `\special` command to set a destination destroys the `\lastskip` value.
`\Hy@RestoreLastskip` 2691 \def\Hy@SaveLastskip{%

```

2692 \let\Hy@RestoreLastskip\relax
2693 \ifvmode
2694   \ifdim\lastskip=\z@
2695     \let\Hy@RestoreLastskip\nobreak
2696   \else
2697     \begingroup
2698     \skip@=-\lastskip
2699     \edef\x{%
2700       \endgroup
2701       \def\noexpand\Hy@RestoreLastskip{%
2702         \noexpand\ifvmode
2703           \noexpand\nobreak
2704           \vskip\the\skip@
2705           \vskip\the\lastskip\relax
2706         \noexpand\fi
2707       }%
2708     }%
2709   \x
2710 \fi
2711 \else
2712   \ifhmode
2713     \ifdim\lastskip=\z@
2714       \let\Hy@RestoreLastskip\nobreak
2715     \else
2716       \begingroup
2717       \skip@=-\lastskip
2718       \edef\x{%
2719         \endgroup
2720         \def\noexpand\Hy@RestoreLastskip{%
2721           \noexpand\ifhmode
2722             \noexpand\nobreak
2723             \hskip\the\skip@
2724             \hskip\the\lastskip\relax
2725           \noexpand\fi
2726         }%
2727       }%
2728     \x
2729   \fi
2730 \fi
2731 \fi
2732 }%

```

9 Options

```

2733 \SetupKeyvalOptions{%
2734   family=Hyp,%
2735   prefix=HyOpt%
2736 }

```

9.1 Help macros

`\IfHyperBooleanExists`

```
2737 \def\IfHyperBooleanExists#1{%
2738   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2739     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2740   }%
2741 }

2742 \@namedef{KV@Hyp@stoppeearly@default}{}
```

`\IfHyperBoolean`

```
2743 \def\IfHyperBoolean#1{%
2744   \IfHyperBooleanExists{#1}{%
2745     \csname ifHy@#1\endcsname
2746     \expandafter\ltx@firstoftwo
2747   \else
2748     \expandafter\ltx@secondoftwo
2749   \fi
2750 } \ltx@secondoftwo
2751 }
```

`\Hy@boolkey`

```
2752 \def\Hy@boolkey#1#2{%
2753   \edef\Hy@tempa{#2}%
2754   \lowercase\expandafter{%
2755     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2756   }%
2757   \ifx\Hy@tempa\@empty
2758     \let\Hy@tempa\Hy@true
2759   \fi
2760   \ifx\Hy@tempa\Hy@true
2761   \else
2762     \ifx\Hy@tempa\Hy@false
2763     \else
2764       \let\Hy@tempa\relax
2765     \fi
2766   \fi
2767   \ifx\Hy@tempa\relax
2768     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2769   \else
2770     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2771     \csname Hy@#1\Hy@tempa\endcsname
2772   \fi
2773 }
```

`\Hy@WarnOptionValue`

```
2774 \def\Hy@WarnOptionValue#1#2#3{%
2775   \Hy@Warning{%
2776     Unexpected value ‘#1’\MessageBreak
```

```

2777   of option ‘#2’ instead of\MessageBreak
2778   #3%
2779 }%
2780 }

```

\Hy@DisableOption

```

2781 \def\Hy@DisableOption#1{%
2782   \ltx@ifundefined{KV@Hyp@#1@default}{%
2783     \define@key{Hyp}{#1}%
2784   }{%
2785     \define@key{Hyp}{#1}[]%
2786   }%
2787   {\Hy@WarnOptionDisabled{#1}}%
2788 }

```

\Hy@WarnOptionDisabled

```

2789 \def\Hy@WarnOptionDisabled#1{%
2790   \Hy@Warning{%
2791     Option ‘#1’ has already been used,\MessageBreak
2792     setting the option has no effect%
2793   }%
2794 }

```

\Hy@CheckOptionValue Some options take a string value out of a limited set of values. Macro \Hy@CheckOptionValue checks whether the given value #1 for option #2 is a member of the value list #3.

```

2795 \def\Hy@CheckOptionValue#1#2#3{%
2796   \begingroup
2797   \edef\x{#1}%
2798   \@onelevel@sanitize\x
2799   \let\y=y%
2800   \def\do##1##2{%
2801     \def\z{##1}%
2802     \@onelevel@sanitize\z
2803     \ifx\x\z
2804       \let\y=n%
2805     \let\do\@gobbletwo
2806   \fi
2807   }%
2808   #3%
2809   \ifx\y y%
2810     \def\do##1##2{%
2811       * ‘##1’%
2812       \ifx\\##2\\\else\space(##2)\fi
2813       \MessageBreak
2814     }%
2815     \Hy@Warning{%
2816       Values of option ‘#2’:\MessageBreak
2817       #3%

```



```

2818      * An empty value disables the option.\MessageBreak
2819      Unknown value '\x'%
2820    }%
2821  \fi
2822 \endgroup
2823 }

```

```

\Hy@DefNameKey #1: option name
#2: \do list with known values, first argument of \do is value, second argument
is a comment.
2824 \def\Hy@DefNameKey#1{%
2825   \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2826 }

```

```

\Hy@@@DefNameKey #1: macro for value storage
#2: option name
#3: \do list with known values.
2827 \def\Hy@@@DefNameKey#1#2#3{%
2828   \define@key{Hyp}{#2}{%
2829     \edef#1{##1}%
2830     \ifx#1\@empty
2831       \else
2832         \Hy@CheckOptionValue{##1}{#2}{#3}%
2833       \fi
2834   }%
2835   \let#1\@empty
2836 }

```

```

\Hy@UseNameKey
2837 \def\Hy@UseNameKey#1#2{%
2838   \ifx#2\@empty
2839     \else
2840       /#1/#2%
2841     \fi
2842 }

```

9.2 Defining the options

```

2843 \define@key{Hyp}{implicit}[true]{%
2844   \Hy@boolkey{implicit}{#1}%
2845 }
2846 \define@key{Hyp}{draft}[true]{%
2847   \Hy@boolkey{draft}{#1}%
2848 }
2849 \define@key{Hyp}{final}[true]{%
2850   \Hy@boolkey{final}{#1}%
2851 }
2852 \let\KV@Hyp@nolinks\KV@Hyp@draft

```

```

2853 \def\Hy@ObsoletePaperOption#1{%
2854   \Hy@WarningNoLine{%
2855     Option '#1' is no longer used%
2856   }%
2857   \define@key{Hyp}{#1}[true]{}%
2858 }
2859 \def\Hy@temp#1{%
2860   \define@key{Hyp}{#1}[true]{}%
2861   \Hy@ObsoletePaperOption{#1}%
2862 }%
2863 }
2864 \Hy@temp{a4paper}
2865 \Hy@temp{a5paper}
2866 \Hy@temp{b5paper}
2867 \Hy@temp{letterpaper}
2868 \Hy@temp{legalpaper}
2869 \Hy@temp{executivepaper}

2870 \define@key{Hyp}{setpagesize}[true]{}%
2871   \Hy@boolkey{setpagesize}{#1}%
2872 }
2873 \define@key{Hyp}{debug}[true]{}%
2874   \Hy@boolkey{debug}{#1}%
2875 }
2876 \define@key{Hyp}{linktocpage}[true]{}%
2877   \Hy@boolkey{linktocpage}{#1}%
2878   \ifHy@linktocpage
2879     \let\Hy@linktoc\Hy@linktoc@page
2880   \else
2881     \let\Hy@linktoc\Hy@linktoc@section
2882   \fi
2883 }
2884 \chardef\Hy@linktoc@none=0 %
2885 \chardef\Hy@linktoc@section=1 %
2886 \chardef\Hy@linktoc@page=2 %
2887 \chardef\Hy@linktoc@all=3 %
2888 \ifHy@linktocpage
2889   \let\Hy@linktoc\Hy@linktoc@page
2890 \else
2891   \let\Hy@linktoc\Hy@linktoc@section
2892 \fi
2893 \define@key{Hyp}{linktoc}{}%
2894   \@ifundefined{Hy@linktoc@#1}{}%
2895   \Hy@Warning{%
2896     Unexpected value '#1' of\MessageBreak
2897     option 'linktoc' instead of 'none',\MessageBreak
2898     'section', 'page' or 'all'%
2899   }%
2900 }{}%
2901   \expandafter\let\expandafter\Hy@linktoc

```

```

2902 \csname Hy@linktoc@#1\endcsname
2903 }%
2904 }
2905 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2906 \let\XR@ext\relax
2907 \define@key{Hyp}{verbose}[true]{%
2908 \Hy@boolkey{verbose}{#1}%
2909 }
2910 \define@key{Hyp}{typexml}[true]{%
2911 \Hy@boolkey{typexml}{#1}%
2912 }

```

If we are going to PDF via HyperTeX `\special` commands, the dvips (-z option) processor does not know the *height* of a link, as it works solely on the position of the closing `\special`. If we use this option, the `\special` is raised up by the right amount, to fool the dvi processor.

```

2913 \define@key{Hyp}{raiselinks}[true]{%
2914 \Hy@boolkey{raiselinks}{#1}%
2915 }

```

Most PDF-creating drivers do not allow links to be broken

```

2916 \def\Hy@setbreaklinks#1{%
2917 \csname breaklinks#1\endcsname
2918 }
2919 \def\Hy@breaklinks@unsupported{%
2920 \ifx\Hy@setbreaklinks\@gobble
2921 \ifHy@breaklinks
2922 \Hy@WarningNoLine{%
2923 You have enabled option 'breaklinks'.\MessageBreak
2924 But driver '\Hy@driver.def' does not support this.\MessageBreak
2925 Expect trouble with the link areas of broken links%
2926 }%
2927 \fi
2928 \fi
2929 }
2930 \define@key{Hyp}{breaklinks}[true]{%
2931 \Hy@boolkey{breaklinks}{#1}%
2932 \let\Hy@setbreaklinks\@gobble
2933 }
2934 \define@key{Hyp}{localanchorname}[true]{%
2935 \Hy@boolkey{localanchorname}{#1}%
2936 }

```

Determines whether an automatic anchor is put on each page

```

2937 \define@key{Hyp}{pageanchor}[true]{%
2938 \Hy@boolkey{pageanchor}{#1}%
2939 }

```

Are the page links done as plain arabic numbers, or do they follow the formatting of the package? The latter loses if you put in typesetting like `\textbf` or the like.

```

2940 \define@key{Hyp}{plainpages}[true]{%

```

```

2941 \Hy@boolkey{plainpages}{#1}%
2942 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L^AT_EX provides?

```

2943 \define@key{Hyp}{naturalnames}[true]{%
2944 \Hy@boolkey{naturalnames}{#1}%
2945 }

```

Completely ignore the names as per the HyperTeX system, and use unique counters.

```

2946 \define@key{Hyp}{hypertextnames}[true]{%
2947 \Hy@boolkey{hypertextnames}{#1}%
2948 }

```

Currently, dvips doesn't allow anchors nested within targets, so this option tries to stop that happening. Other processors may be able to cope.

```

2949 \define@key{Hyp}{nesting}[true]{%
2950 \Hy@boolkey{nesting}{#1}%
2951 }

```

```

2952 \define@key{Hyp}{destlabel}[true]{%
2953 \Hy@boolkey{destlabel}{#1}%
2954 }

```

```

2955 \define@key{Hyp}{unicode}[true]{%
2956 \Hy@boolkey{unicode}{#1}%
2957 \ifHy@unicode
2958 \def\HyPsd@pdfencoding{unicode}%
2959 \HyPsd@LoadUnicode
2960 \else
2961 \def\HyPsd@pdfencoding{pdfdoc}%
2962 \fi
2963 }
2964 \Hy@AtBeginDocument{%
2965 \ifx\HyPsd@LoadUnicode\relax
2966 \else
2967 \def\HyPsd@LoadUnicode{%
2968 \Hy@Error{%
2969 Unicode support for bookmarks is not available.\MessageBreak
2970 Activate unicode support by using one of the options\MessageBreak
2971 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2972 in the preamble%
2973 }\@ehc
2974 \global\let\HyPsd@LoadUnicode\relax
2975 \global\Hy@unicodetrue
2976 \global\let\Hy@unicodetrue\Hy@unicodetrue
2977 }%
2978 \fi
2979 }
2980 \define@key{Hyp}{pdfencoding}{%
2981 \edef\HyPsd@temp{#1}%

```

```

2982 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2983 \let\HyPsd@pdfencoding\HyPsd@temp
2984 \Hy@unicodedefalse
2985 \else
2986 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2987 \z@
2988 \else
2989 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2990 \z@
2991 \else
2992 \@ne
2993 \fi
2994 \fi
2995 \let\HyPsd@pdfencoding\HyPsd@temp
2996 \hypersetup{unicode}%
2997 \ifHy@unicode
2998 \def\HyPsd@pdfencoding{#1}%
2999 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
3000 \HyPsd@LoadStringEnc
3001 \fi
3002 \else
3003 \Hy@Warning{Cannot switch to unicode bookmarks}%
3004 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
3005 \fi
3006 \else
3007 \@onelevel@sanitize\HyPsd@temp
3008 \Hy@Warning{%
3009 Values of option 'pdfencoding':\MessageBreak
3010 'pdfdoc', 'unicode', 'auto'.\MessageBreak
3011 Ignoring unknown value '\HyPsd@temp'%
3012 }%
3013 \fi
3014 \fi
3015 }
3016 \def\HyPsd@pdfencoding@auto{auto}
3017 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
3018 \def\HyPsd@pdfencoding@unicode{unicode}
3019 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
3020 \def\HyPsd@LoadStringEnc{%
3021 \RequirePackage{stringenc}[2009/12/15]%
3022 \let\HyPsd@LoadStringEnc\relax
3023 }
3024 \Hy@AtBeginDocument{%
3025 \@ifpackageloaded{stringenc}{%
3026 \let\HyPsd@LoadStringEnc\relax
3027 }{%
3028 \def\HyPsd@LoadStringEnc{%
3029 \Hy@WarningNoLine{%
3030 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3031 in the preamble or load the package there%

```

```

3032 }%
3033 }%
3034 }%
3035 }

3036 \define@key{Hyp}{psdextra}[true]{%
3037 \Hy@boolkey{psdextra}{#1}%
3038 \HyPsd@LoadExtra
3039 }

3040 \def\hypersetup{\kvsetkeys{Hyp}}

3041 \newif\ifHy@setpdfversion
3042 \define@key{Hyp}{pdfversion}{%
3043 \@ifundefined{Hy@pdfversion@#1}{%
3044 \PackageWarning{hyperref}{%
3045   Unsupported PDF version '#1'.\MessageBreak
3046   Valid values: 1.2 until 1.9%
3047 }%
3048 }{%
3049 \Hy@setpdfversiontrue
3050 \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3051 }%
3052 }
3053 \@namedef{Hy@pdfversion@1.2}{2}%
3054 \@namedef{Hy@pdfversion@1.3}{3}%
3055 \@namedef{Hy@pdfversion@1.4}{4}%
3056 \@namedef{Hy@pdfversion@1.5}{5}%
3057 \@namedef{Hy@pdfversion@1.6}{6}%
3058 \@namedef{Hy@pdfversion@1.7}{7}%
3059 \@namedef{Hy@pdfversion@1.8}{8}%
3060 \@namedef{Hy@pdfversion@1.9}{9}%
3061 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

3062 \newif\ifHy@DviMode
3063 \let\Hy@DviErrMsg\ltx@empty
3064 \ifpdf
3065 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3066 \else
3067 \ifxetex
3068 \def\Hy@DviErrMsg{XeTeX is running}%
3069 \else
3070 \ifvtex
3071 \ifvtexdvi
3072 \Hy@DviModetrue
3073 \else
3074 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3075 \fi
3076 \else
3077 \Hy@DviModetrue

```

```

3078 \fi
3079 \fi
3080 \fi
3081 \def\HyOpt@CheckDvi#1{%
3082 \ifHy@DviMode
3083 \expandafter\ltx@firstofone
3084 \else
3085 \Hy@Error{%
3086   Wrong DVI mode driver option ‘#1’,\MessageBreak
3087   because \Hy@DviErrMsg
3088 } \@ehc
3089 \expandafter\ltx@gobble
3090 \fi
3091 }

3092 \DeclareVoidOption{tex4ht}{%
3093 \Hy@texhttrue
3094 \kvsetkeys{Hyp}{colorlinks=true}%
3095 \def\BeforeTeXIVht{\RequirePackage{color}}%
3096 \def\Hy@driver{htex4ht}%
3097 \def\MaybeStopEarly{%
3098 \Hy@Message{Stopped early}%
3099 \Hy@AtBeginDocument{%
3100 \PDF@FinishDoc
3101 \gdef\PDF@FinishDoc{}}%
3102 }%
3103 \endinput
3104 }%
3105 }

3106 \DeclareVoidOption{pdftex}{%
3107 \ifpdf
3108 \def\Hy@driver{hpdftex}%
3109 \else
3110 \Hy@Error{%
3111   Wrong driver option ‘pdftex’,\MessageBreak
3112   because pdfTeX in PDF mode is not detected%
3113 } \@ehc
3114 \fi
3115 }

3116 \DeclareVoidOption{nativepdf}{%
3117 \HyOpt@CheckDvi{nativepdf}{%
3118 \def\Hy@driver{hdvips}%
3119 }%
3120 }

3121 \DeclareVoidOption{dvipdfm}{%
3122 \HyOpt@CheckDvi{dvipdfm}{%
3123 \def\Hy@driver{hdvipdfm}%
3124 }%
3125 }

3126 \DeclareVoidOption{dvipdfmx}{%

```

```

3127 \HyOpt@CheckDvi{dvipdfmx}{%
3128 \def\Hy@driver{hdvipdfm}%
3129 }%
3130 }
3131 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3132 \expandafter\ifx\csname if#1\expandafter\endcsname
3133 \csname iftrue\endcsname
3134 \chardef\SpecialDvipdfmxOutlineOpen\@ne
3135 \else
3136 \chardef\SpecialDvipdfmxOutlineOpen\z@
3137 \fi
3138 }
3139 \DeclareVoidOption{xetex}{%
3140 \ifxetex
3141 \def\Hy@driver{hxetex}%
3142 \else
3143 \Hy@Error{%
3144 Wrong driver option 'xetex',\MessageBreak
3145 because XeTeX is not detected%
3146 }\@ehc
3147 \fi
3148 }
3149 \DeclareVoidOption{pdfmark}{%
3150 \HyOpt@CheckDvi{pdfmark}{%
3151 \def\Hy@driver{hdvips}%
3152 }%
3153 }
3154 \DeclareVoidOption{dvips}{%
3155 \HyOpt@CheckDvi{dvips}{%
3156 \def\Hy@driver{hdvips}%
3157 }%
3158 }
3159 \DeclareVoidOption{hypertex}{%
3160 \HyOpt@CheckDvi{hypertex}{%
3161 \def\Hy@driver{hypertex}%
3162 }%
3163 }
3164 \let\Hy@MaybeStopNow\relax
3165 \DeclareVoidOption{vtex}{%
3166 \ifvtex
3167 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3168 \def\Hy@driver{hvtex}%
3169 \else
3170 \ifnum\OpMode=10\relax
3171 \def\Hy@driver{hvtexhtm}%
3172 \def\MaybeStopEarly{%
3173 \Hy@Message{Stopped early}%
3174 \Hy@AtBeginDocument{%
3175 \PDF@FinishDoc
3176 \gdef\PDF@FinishDoc{}}%

```



```

3177     }%
3178     \endinput
3179     }%
3180   \else
3181     \Hy@Error{%
3182       Wrong driver option 'vtex',\MessageBreak
3183       because of wrong OpMode (\the\OpMode)%
3184     }\@ehc
3185   \fi
3186 \fi
3187 \else
3188   \Hy@Error{%
3189     Wrong driver option 'vtex',\MessageBreak
3190     because VTeX is not running%
3191   }\@ehc
3192 \fi
3193 }
3194 \DeclareVoidOption{vtexpdfmark}{%
3195   \ifvtex
3196     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3197     \def\Hy@driver{hvtexmrk}%
3198   \else
3199     \Hy@Error{%
3200       Wrong driver option 'vtexpdfmark',\MessageBreak
3201       because of wrong OpMode (\the\OpMode)%
3202     }\@ehc
3203   \fi
3204 \else
3205   \Hy@Error{%
3206     Wrong driver option 'vtexpdfmark,\MessageBreak
3207     because VTeX is not running%
3208   }\@ehc
3209 \fi
3210 }
3211 \DeclareVoidOption{dviwindo}{%
3212   \HyOpt@CheckDvi{dviwindo}{%
3213     \def\Hy@driver{hdviwind}%
3214     \kvsetkeys{Hyp}{colorlinks}%
3215     \PassOptionsToPackage{dviwindo}{color}%
3216   }%
3217 }
3218 \DeclareVoidOption{dvipsone}{%
3219   \HyOpt@CheckDvi{dvipsone}{%
3220     \def\Hy@driver{hdvipson}%
3221   }%
3222 }
3223 \DeclareVoidOption{textures}{%
3224   \HyOpt@CheckDvi{textures}{%
3225     \def\Hy@driver{htexture}%
3226   }%

```

```

3227 }
3228 \DeclareVoidOption{latex2html}{%
3229   \HyOpt@CheckDvi{latex2html}{%
3230     \Hy@AtBeginDocument{\@@latextohtmlX}%
3231   }%
3232 }

No more special treatment for ps2pdf. Let it sink or swim.
3233 \DeclareVoidOption{ps2pdf}{%
3234   \HyOpt@CheckDvi{ps2pdf}{%
3235     \def\Hy@driver{hdvips}%
3236   }%
3237 }

3238 \let\HyOpt@DriverFallback\ltx@empty
3239 \define@key{Hyp}{driverfallback}{%
3240   \ifHy@DviMode
3241     \def\HyOpt@DriverFallback{#1}%
3242     \Hy@Match\HyOpt@DriverFallback{}{%
3243       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3244       latex2html|tex4ht)$%
3245     }{}{%
3246       \Hy@Warning{%
3247         Invalid driver '#1' for option\MessageBreak
3248         'driverfallback'%
3249       }%
3250       \let\HyOpt@DriverFallback\ltx@empty
3251     }%
3252   \fi
3253 }

3254 \let\HyOpt@CustomDriver\ltx@empty
3255 \define@key{Hyp}{customdriver}{%
3256   \IfFileExists{#1.def}{%
3257     \def\HyOpt@CustomDriver{#1}%
3258   }{%
3259     \Hy@Warning{%
3260       Missing driver file '#1.def',\MessageBreak
3261       ignoring custom driver%
3262     }%
3263   }%
3264 }

```

11 Options to add extra features

Make included figures (assuming they use the standard graphics package) be hypertext links. Off by default. Needs more work.

```

3265 \define@key{Hyp}{hyperfigures}[true]{%
3266   \Hy@boolkey{hyperfigures}{#1}%
3267 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3268 \define@key{Hyp}{hyperfootnotes}[true]{%
3269 \Hy@boolkey{hyperfootnotes}{#1}%
3270 }

Set up back-referencing to be hyper links, by page, slide or section number,
3271 \def\back@none{none}
3272 \def\back@section{section}
3273 \def\back@page{page}
3274 \def\back@slide{slide}
3275 \define@key{Hyp}{backref}[section]{%
3276 \lowercase{\def\Hy@tempa{#1}}%
3277 \ifx\Hy@tempa\@empty
3278 \let\Hy@tempa\back@section
3279 \fi
3280 \ifx\Hy@tempa\Hy@false
3281 \let\Hy@tempa\back@none
3282 \fi
3283 \ifx\Hy@tempa\back@slide
3284 \let\Hy@tempa\back@section
3285 \fi
3286 \ifx\Hy@tempa\back@page
3287 \PassOptionsToPackage{hyperpageref}{backref}%
3288 \Hy@backreftrue
3289 \else
3290 \ifx\Hy@tempa\back@section
3291 \PassOptionsToPackage{hyperref}{backref}%
3292 \Hy@backreftrue
3293 \else
3294 \ifx\Hy@tempa\back@none
3295 \Hy@backreffalse
3296 \else
3297 \Hy@WarnOptionValue{#1}{backref}{%
3298 'section', 'slide', 'page', 'none',\MessageBreak
3299 or 'false'}%
3300 \fi
3301 \fi
3302 \fi
3303 }
3304 \define@key{Hyp}{pagebackref}[true]{%
3305 \edef\Hy@tempa{#1}%
3306 \lowercase\expandafter{%
3307 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3308 }%
3309 \ifx\Hy@tempa\@empty
3310 \let\Hy@tempa\Hy@true
3311 \fi
3312 \ifx\Hy@tempa\Hy@true
3313 \PassOptionsToPackage{hyperpageref}{backref}%
3314 \Hy@backreftrue
3315 \else

```

```

3316 \ifx\Hy@tempa\Hy>false
3317 \Hy@backreffalse
3318 \else
3319 \Hy@WarnOptionValue{#1}{pagebackref}{‘true’ or ‘false’}%
3320 \fi
3321 \fi
3322 }

```

Make index entries be links back to the relevant pages. By default this is turned on, but may be stopped.

```

3323 \define@key{Hyp}{hyperindex}[true]{%
3324 \Hy@boolkey{hyperindex}{#1}%
3325 }

```

Configuration of encap char.

```

3326 \define@key{Hyp}{encap}[|]{%
3327 \def\HyInd@EncapChar{#1}%
3328 }

```

12 Language options

The `\autoref` feature depends on the language.

```

3329 \def\HyLang@afrikaans{%
3330 \def\equationautorefname{Vergelyking}%
3331 \def\footnoteautorefname{Voetnota}%
3332 \def\itemautorefname{Item}%
3333 \def\figureautorefname{Figuur}%
3334 \def\tableautorefname{Tabel}%
3335 \def\partautorefname{Deel}%
3336 \def\appendixautorefname{Bylae}%
3337 \def\chapterautorefname{Hoofstuk}%
3338 \def\sectionautorefname{Afdeling}%
3339 \def\subsectionautorefname{Subafdeling}%
3340 \def\subsubsectionautorefname{Subsubafdeling}%
3341 \def\paragraphautorefname{Paragraaf}%
3342 \def\subparagraphautorefname{Subparagraaf}%
3343 \def\FancyVerbLineautorefname{Lyn}%
3344 \def\theoremautorefname{Teorema}%
3345 \def\pageautorefname{Bladsy}%
3346 }
3347 \def\HyLang@english{%
3348 \def\equationautorefname{Equation}%
3349 \def\footnoteautorefname{footnote}%
3350 \def\itemautorefname{item}%
3351 \def\figureautorefname{Figure}%
3352 \def\tableautorefname{Table}%
3353 \def\partautorefname{Part}%
3354 \def\appendixautorefname{Appendix}%
3355 \def\chapterautorefname{chapter}%

```

```

3356 \def\sectionautorefname{section}%
3357 \def\subsectionautorefname{subsection}%
3358 \def\subsubsectionautorefname{subsubsection}%
3359 \def\paragraphautorefname{paragraph}%
3360 \def\subparagraphautorefname{subparagraph}%
3361 \def\FancyVerbLineautorefname{line}%
3362 \def\theoremautorefname{Theorem}%
3363 \def\pageautorefname{page}%
3364 }
3365 \def\HyLang@french{%
3366 \def\equationautorefname{'Equation}%
3367 \def\footnoteautorefname{note}%
3368 \def\itemautorefname{item}%
3369 \def\figureautorefname{Figure}%
3370 \def\tableautorefname{Tableau}%
3371 \def\partautorefname{Partie}%
3372 \def\appendixautorefname{Appendice}%
3373 \def\chapterautorefname{chapitre}%
3374 \def\sectionautorefname{section}%
3375 \def\subsectionautorefname{sous-section}%
3376 \def\subsubsectionautorefname{sous-sous-section}%
3377 \def\paragraphautorefname{paragraphe}%
3378 \def\subparagraphautorefname{sous-paragraphe}%
3379 \def\FancyVerbLineautorefname{ligne}%
3380 \def\theoremautorefname{Th\'eor\'eme}%
3381 \def\pageautorefname{page}%
3382 }
3383 \def\HyLang@german{%
3384 \def\equationautorefname{Gleichung}%
3385 \def\footnoteautorefname{Fu\ss note}%
3386 \def\itemautorefname{Punkt}%
3387 \def\figureautorefname{Abbildung}%
3388 \def\tableautorefname{Tabelle}%
3389 \def\partautorefname{Teil}%
3390 \def\appendixautorefname{Anhang}%
3391 \def\chapterautorefname{Kapitel}%
3392 \def\sectionautorefname{Abschnitt}%
3393 \def\subsectionautorefname{Unterabschnitt}%
3394 \def\subsubsectionautorefname{Unterunterabschnitt}%
3395 \def\paragraphautorefname{Absatz}%
3396 \def\subparagraphautorefname{Unterabsatz}%
3397 \def\FancyVerbLineautorefname{Zeile}%
3398 \def\theoremautorefname{Theorem}%
3399 \def\pageautorefname{Seite}%
3400 }
3401 \def\HyLang@italian{%
3402 \def\equationautorefname{Equazione}%
3403 \def\footnoteautorefname{nota}%
3404 \def\itemautorefname{punto}%
3405 \def\figureautorefname{Figura}%

```

```

3406 \def\tableautorefname{Tabella}%
3407 \def\partautorefname{Parte}%
3408 \def\appendixautorefname{Appendice}%
3409 \def\chapterautorefname{Capitolo}%
3410 \def\sectionautorefname{sezione}%
3411 \def\subsectionautorefname{sottosezione}%
3412 \def\subsubsectionautorefname{sottosottosezione}%
3413 \def\paragraphautorefname{paragrafo}%
3414 \def\subparagraphautorefname{sottoparagrafo}%
3415 \def\FancyVerbLineautorefname{linea}%
3416 \def\theoremautorefname{Teorema}%
3417 \def\pageautorefname{Pag.\@}%
3418 }
3419 \def\HyLang@magyar{%
3420 \def\equationautorefname{Egyenlet}%
3421 \def\footnoteautorefname{l'abjegyzet}%
3422 \def\itemautorefname{Elem}%
3423 \def\figureautorefname{'Abra}%
3424 \def\tableautorefname{T'abl'azat}%
3425 \def\partautorefname{R'esz}%
3426 \def\appendixautorefname{F'uggel'ek}%
3427 \def\chapterautorefname{fejezet}%
3428 \def\sectionautorefname{szakasz}%
3429 \def\subsectionautorefname{alszakasz}%
3430 \def\subsubsectionautorefname{alalszakasz}%
3431 \def\paragraphautorefname{bekezd'es}%
3432 \def\subparagraphautorefname{albekezd'es}%
3433 \def\FancyVerbLineautorefname{sor}%
3434 \def\theoremautorefname{T'etel}%
3435 \def\pageautorefname{oldal}%
3436 }
3437 \def\HyLang@portuges{%
3438 \def\equationautorefname{Equa\c c\~ao}%
3439 \def\footnoteautorefname{Nota de rodap'e}%
3440 \def\itemautorefname{Item}%
3441 \def\figureautorefname{Figura}%
3442 \def\tableautorefname{Tabela}%
3443 \def\partautorefname{Parte}%
3444 \def\appendixautorefname{Ap\~endice}%
3445 \def\chapterautorefname{Cap\~itulo}%
3446 \def\sectionautorefname{Se\c c\~ao}%
3447 \def\subsectionautorefname{Subse\c c\~ao}%
3448 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3449 \def\paragraphautorefname{par\~agrafo}%
3450 \def\subparagraphautorefname{subpar\~agrafo}%
3451 \def\FancyVerbLineautorefname{linha}%
3452 \def\theoremautorefname{Teorema}%
3453 \def\pageautorefname{P\~agina}%
3454 }

```

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the `\equationautorefname`, `\theoremautorefname` and the `\FancyVerbLineautorefname`. But those three, and also the `\footnoteautorefname` are not *too* often referenced. Another rather weak point is the `\appendixautorefname`.

```
3455 \def\HyLang@russian{%
```

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the `\theoremautorefname`?

```
3456 \def\equationautorefname{\cyr\cyrv\cyrrery\cyrr.}%
```

The name of the equation reference has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`” etc. The full name must follow full name of the `\theoremautorefname`.

```
3457 % \def\equationautorefname{%
```

```
3458 % \cyr\cyrv\cyrrery\cyrr\cyra\cyrrzh\cyre\cyrn\cyri\cyre
```

```
3459 % }%
```

The variant of footnote has abbreviation form of the synonym of the word “footnote”. This variant of abbreviated synonym has alternative status (maybe obsolete?).

```
3460 \def\footnoteautorefname{%
```

```
3461 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3462 }%
```

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`”

```
3463 % \def\footnoteautorefname{%
```

```
3464 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
```

```
3465 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
```

```
3466 % }%
```

Commented forms of the “footnote”: have different forms, the same is for the nominative and accusative. (The others needed?)

```
3467 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3468 % \def\Accfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%
```

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`” etc.

```
3469 \def\itemautorefname{\cyr\cyrp.}%
```

```
3470 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
3471 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3472 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
```

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
3473 \def\partautorefname{\cyr\cyrch.}%
3474 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3475 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

Name of the appendix can use this abbreviation, but it is not standard for books, i.e, not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

```
3476 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3477 % \def\appendixautorefname{%
3478 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrzh\cyre\cyrn\cyri\cyre
3479 % }%
```

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

```
3480 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3481 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

```
3482 \def\paragraphautorefname{\cyr\cyrp.}%
3483 \def\subparagraphautorefname{\cyr\cyrp.}%
```

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

```
3484 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3485 % \def\subparagraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

```
3486 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

Commented names of the “verbatim line”: have different forms, also the nominative and accusative.

```
3487 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3488 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

The alternative, ve-e-e-ery professional abbreviation, was used in typography markup for typesetters.

```
3489 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%
```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

```
3490 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```


Commented forms of the “theorem”: have different forms, also the nominative and accusative.

```
3491 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyr\cyra}%
3492 % \def\Accttheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyr\cyru}%
```

Name of the page stable (standard) abbreviation form. No problem.

```
3493 \def\pageautorefname{\cyr\cyrs.}%
3494 }
```

```
3495 \def\HyLang@spanish{%
3496 \def\equationautorefname{Ecuaci'on}%
3497 \def\footnoteautorefname{Nota a pie de p'agina}%
3498 \def\itemautorefname{Elemento}%
3499 \def\figureautorefname{Figura}%
3500 \def\tableautorefname{Tabla}%
3501 \def\partautorefname{Parte}%
3502 \def\appendixautorefname{Ap'endice}%
3503 \def\chapterautorefname{Cap'itulo}%
3504 \def\sectionautorefname{Secci'on}%
3505 \def\subsectionautorefname{Subsecci'on}%
3506 \def\subsubsectionautorefname{Subsubsecci'on}%
3507 \def\paragraphautorefname{P'arrafo}%
3508 \def\subparagraphautorefname{Subp'arrafo}%
3509 \def\FancyVerbLineautorefname{L'inea}%
3510 \def\theoremautorefname{Teorema}%
3511 \def\pageautorefname{P'agina}%
3512 }
3513 \def\HyLang@vietnamese{%
3514 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr\inh}%
3515 \def\footnoteautorefname{Ch'u th'ich}%
3516 \def\itemautorefname{m\du{c}}%
3517 \def\figureautorefname{H\inh}%
3518 \def\tableautorefname{B\ha{ng}}%
3519 \def\partautorefname{Ph'\acircumflex{n}}%
3520 \def\appendixautorefname{Ph\du{l}\du{c}}%
3521 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
3522 \def\sectionautorefname{m\du{c}}%
3523 \def\subsectionautorefname{m\du{c}}%
3524 \def\subsubsectionautorefname{m\du{c}}%
3525 \def\paragraphautorefname{dj{o}\da{n}}%
3526 \def\subparagraphautorefname{dj{o}\da{n}}%
3527 \def\FancyVerbLineautorefname{d'ong}%
3528 \def\theoremautorefname{DJ}\di{nh l'y}%
3529 \def\pageautorefname{Trang}%
3530 }
```

Instead of package babel's definition of `\addto` the implementation of package `varioref` is used. Additionally argument `#1` is checked for `\relax`.

```
3531 \def\HyLang@addto#1#2{%
3532 #2%
3533 \@temptokena{#2}%
```

```

3534 \ifx#1\relax
3535   \let#1\@empty
3536 \fi
3537 \ifx#1\@undefined
3538   \edef#1{\the\@temptokena}%
3539 \else
3540   \toks@\expandafter{#1}%
3541   \edef#1{\the\toks@\the\@temptokena}%
3542 \fi
3543 \@temptokena{}\toks@\@temptokena
3544 }

3545 \def\HyLang@DeclareLang#1#2#3{%
3546   \@ifpackagewith{babel}{#1}{%
3547     \expandafter\HyLang@addto
3548       \csname extras#1\expandafter\endcsname
3549       \csname HyLang@#2\endcsname
3550   \begingroup
3551     \edef\x{\endgroup
3552       #3%
3553     }%
3554   \x
3555   \@namedef{HyLang@#1@done}{}%
3556 }{}%
3557 \begingroup
3558   \edef\x###1##2{%
3559     \noexpand\ifx##2\relax
3560       \errmessage{No definitions for language #2' found!}%
3561     \noexpand\fi
3562   \endgroup
3563   \noexpand\define@key{Hyp}{#1}[]{%
3564     \noexpand\@ifundefined{HyLang@#1@done}{%
3565       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3566       #3%
3567       \noexpand\@namedef{HyLang@#1@done}{}%
3568     }{}%
3569   }%
3570 }%
3571 \expandafter\x\csname extras#1\expandafter\endcsname
3572   \csname HyLang@#2\endcsname
3573 }

3574 \HyLang@DeclareLang{english}{english}{}
3575 \HyLang@DeclareLang{UKenglish}{english}{}
3576 \HyLang@DeclareLang{british}{english}{}
3577 \HyLang@DeclareLang{USenglish}{english}{}
3578 \HyLang@DeclareLang{american}{english}{}
3579 \HyLang@DeclareLang{german}{german}{}
3580 \HyLang@DeclareLang{austrian}{german}{}
3581 \HyLang@DeclareLang{ngerman}{german}{}
3582 \HyLang@DeclareLang{naustrian}{german}{}

```

```

3583 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3584 \HyLang@DeclareLang{brazil}{portuges}{\noexpand\hypersetup{unicode}}
3585 \HyLang@DeclareLang{brazilian}{portuges}{\noexpand\hypersetup{unicode}}
3586 \HyLang@DeclareLang{portuguese}{portuges}{\noexpand\hypersetup{unicode}}
3587 \HyLang@DeclareLang{spanish}{spanish}{\noexpand\hypersetup{unicode}}
3588 \HyLang@DeclareLang{afrikaans}{afrikaans}{\noexpand\hypersetup{unicode}}
3589 \HyLang@DeclareLang{french}{french}{\noexpand\hypersetup{unicode}}
3590 \HyLang@DeclareLang{frenchb}{french}{\noexpand\hypersetup{unicode}}
3591 \HyLang@DeclareLang{francais}{french}{\noexpand\hypersetup{unicode}}
3592 \HyLang@DeclareLang{acadian}{french}{\noexpand\hypersetup{unicode}}
3593 \HyLang@DeclareLang{canadien}{french}{\noexpand\hypersetup{unicode}}
3594 \HyLang@DeclareLang{italian}{italian}{\noexpand\hypersetup{unicode}}
3595 \HyLang@DeclareLang{magyar}{magyar}{\noexpand\hypersetup{unicode}}
3596 \HyLang@DeclareLang{hungarian}{magyar}{\noexpand\hypersetup{unicode}}

```

More work is needed in case of options `vietnamese` and `vietnam`.

```

3597 \DeclareVoidOption{vietnamese}{%
3598   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3599   \Hy@AtEndOfPackage{%
3600     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}%
3601     \input{puvnenc.def}%
3602   }%
3603 }%
3604 }
3605 \DeclareVoidOption{vietnam}{%
3606   \HyLang@addto\extravietnam\HyLang@vietnamese
3607   \Hy@AtEndOfPackage{%
3608     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}%
3609     \input{puvnenc.def}%
3610   }%
3611 }%
3612 }

```

Similar for option `arabic` that just loads the additions to PU encoding for Arabi.

```

3613 \DeclareVoidOption{arabic}{%
3614   \Hy@AtEndOfPackage{%
3615     \ifundefined{T@PU}{\noexpand\hypersetup{unicode}}%
3616     \input{puarenc.def}%
3617   }%
3618 }%
3619 }

```

13 Options to change appearance of links

Colouring links at the \LaTeX level is useful for debugging, perhaps.

```

3620 \define@key{Hyp}{colorlinks}[true]{%
3621   \Hy@boolkey{colorlinks}{#1}%
3622 }
3623 \DeclareVoidOption{hidelinks}{%

```

```

3624 \Hy@colorlinksfalse
3625 \Hy@ocgcolorlinksfalse
3626 \Hy@frenchlinksfalse
3627 \def\Hy@colorlink###1{\begingroup}%
3628 \def\Hy@endcolorlink{\endgroup}%
3629 \def\@pdfborder{0 0 0}%
3630 \let\@pdfborderstyle\ltx@empty
3631 }
3632 \define@key{Hyp}{ocgcolorlinks}[true]{%
3633 \Hy@boolkey{ocgcolorlinks}{#1}%
3634 }
3635 \Hy@AtBeginDocument{%
3636 \begingroup
3637 \@ifundefined{OBJ@OCG@view}{%
3638 \ifHy@ocgcolorlinks
3639 \Hy@Warning{%
3640 Driver does not support ‘ocgcolorlinks’,\MessageBreak
3641 using ‘colorlinks’ instead%
3642 }%
3643 \fi
3644 }{}%
3645 \endgroup
3646 }
3647 \define@key{Hyp}{frenchlinks}[true]{%
3648 \Hy@boolkey{frenchlinks}{#1}%
3649 }

```

14 Bookmarking

```

3650 \begingroup\expandafter\expandafter\expandafter\endgroup
3651 \expandafter\ifx\csname chapter\endcsname\relax
3652 \def\toclevel@part{0}%
3653 \else
3654 \def\toclevel@part{-1}%
3655 \fi
3656 \def\toclevel@chapter{0}
3657 \def\toclevel@section{1}
3658 \def\toclevel@subsection{2}
3659 \def\toclevel@subsubsection{3}
3660 \def\toclevel@paragraph{4}
3661 \def\toclevel@subparagraph{5}
3662 \def\toclevel@figure{0}
3663 \def\toclevel@table{0}
3664 \@ifpackageloaded{listings}{%
3665 \providecommand*\theHlstlisting{\thelstlisting}%
3666 \providecommand*\toclevel@lstlisting{0}%
3667 }{}
3668 \@ifpackageloaded{listing}{%
3669 \providecommand*\theHlisting{\thelisting}%

```

```

3670 \providecommand*\toclevel@listing{0}%
3671 }{}

3672 \define@key{Hyp}{bookmarks}[true]{%
3673   \Hy@boolkey{bookmarks}{#1}%
3674 }

3675 \define@key{Hyp}{bookmarksopen}[true]{%
3676   \Hy@boolkey{bookmarksopen}{#1}%
3677 }

```

The depth of the outlines is controlled by option `bookmarksdepth`. The option acts globally and distinguishes three cases:

- `bookmarksdepth`: Without value `hyperref` uses counter `tocdepth` (compatible behaviour and default).
- `bookmarksdepth=<number>`: the depth is set to `<number>`.
- `bookmarksdepth=<name>`: The `<name>` must not start with a number or minus sign. It is a document division name (part, chapter, section, ...). Internally the value of macro `\toclevel@<name>` is used.

```

3678 \let\Hy@bookmarksdepth\c@tocdepth
3679 \define@key{Hyp}{bookmarksdepth}[]{}%
3680 \begingroup
3681   \edef\x{#1}%
3682   \ifx\x\empty
3683     \global\let\Hy@bookmarksdepth\c@tocdepth
3684   \else
3685     \ifundefined{toclevel@\x}{%
3686       \@onelevel@sanitize\x
3687       \edef\y{\expandafter\@car\x\@nil}%
3688       \ifcase 0\expandafter\ifx\y-1\fi
3689         \expandafter\ifnum\expandafter\y>47 %
3690         \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3691       \Hy@Warning{Unknown document division name (\x)}%
3692     \else
3693       \setbox\z@=\hbox{%
3694         \count@=\x
3695         \xdef\Hy@bookmarksdepth{\the\count@}%
3696       }%
3697     \fi
3698   }{}%
3699   \setbox\z@=\hbox{%
3700     \count@=\csname toclevel@\x\endcsname
3701     \xdef\Hy@bookmarksdepth{\the\count@}%
3702   }%
3703 }%
3704 \fi
3705 \endgroup
3706 }

```

‘bookmarksopenlevel’ to specify the open level. From Heiko Oberdiek.

```

3707 \define@key{Hyp}{bookmarksopenlevel}{%
3708   \def\@bookmarksopenlevel{#1}%
3709 }
3710 \def\@bookmarksopenlevel{\maxdimen}
3711 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3712 \define@key{Hyp}{bookmarkstype}{%
3713   \def\Hy@bookmarkstype{#1}%
3714 }
3715 \def\Hy@bookmarkstype{toc}

```

Richard Curnow <richard@curnow.demon.co.uk> suggested this functionality. It adds section numbers etc to bookmarks.

```

3716 \define@key{Hyp}{bookmarksnumbered}[true]{%
3717   \Hy@boolkey{bookmarksnumbered}{#1}%
3718 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3719 \define@key{Hyp}{CJKbookmarks}[true]{%
3720   \Hy@boolkey{CJKbookmarks}{#1}%
3721 }

3722 \def\Hy@temp#1{%
3723   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3724 }
3725 \def\Hy@@temp#1#2#3{%
3726   \define@key{Hyp}{#2color}{%
3727     \HyColor@HyperrefColor{##1}#1%
3728   }%
3729   \def#1{#3}%
3730 }
3731 \Hy@temp{link}{red}
3732 \Hy@temp{anchor}{black}
3733 \Hy@temp{cite}{green}
3734 \Hy@temp{file}{cyan}
3735 \Hy@temp{url}{magenta}
3736 \Hy@temp{menu}{red}
3737 \Hy@temp{run}{\@filecolor}
3738 \define@key{Hyp}{pagecolor}{%
3739   \Hy@WarningPageColor
3740 }
3741 \def\Hy@WarningPageColor{%
3742   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3743   \global\let\Hy@WarningPageColor\relax
3744 }
3745 \define@key{Hyp}{allcolors}{%
3746   \HyColor@HyperrefColor{#1}\@linkcolor
3747   \HyColor@HyperrefColor{#1}\@anchorcolor
3748   \HyColor@HyperrefColor{#1}\@citecolor
3749   \HyColor@HyperrefColor{#1}\@filecolor
3750   \HyColor@HyperrefColor{#1}\@urlcolor

```

```

3751 \HyColor@HyperrefColor{#1}\@menucolor
3752 \HyColor@HyperrefColor{#1}\@runcolor
3753 }

3754 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3755 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3756 \let\@baseurl\@empty
3757 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3758 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3759 \hyperlinkfileprefix{file:}

```

15 PDF-specific options

`\@pdfpagetransition` The value of option `pdfpagetransition` is stored in `\@pdfpagetransition`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

3760 \let\@pdfpagetransition\relax
3761 \define@key{Hyp}{pdfpagetransition}{%
3762 \def\@pdfpagetransition{#1}%
3763 }

```

`\@pdfpageduration` The value of option `pdfpageduration` is stored in `\@pdfpageduration`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

3764 \let\@pdfpageduration\relax
3765 \define@key{Hyp}{pdfpageduration}{%
3766 \def\@pdfpageduration{#1}%
3767 \Hy@Match\@pdfpageduration}{%
3768 ^([|0-9]+\.[0-9]*|0-9)*\.[0-9]+)$%
3769 }{}{%
3770 \Hy@Warning{%
3771 Invalid value '@pdfpageduration'\MessageBreak
3772 of option 'pdfpageduration'\MessageBreak
3773 is replaced by an empty value%
3774 }%
3775 \let\@pdfpageduration\ltx@empty
3776 }%
3777 }

```

The entry for the `/Hid` key in the page object is only necessary, if it is used and set to true for at least one time. If it is always false, then the `/Hid` key is not written to the pdf page object in order not to enlarge the pdf file.

```

3778 \newif\ifHy@useHidKey
3779 \Hy@useHidKeyfalse
3780 \define@key{Hyp}{pdfpagehidden}[true]{%
3781 \Hy@boolkey{pdfpagehidden}{#1}%
3782 \ifHy@pdfpagehidden
3783 \global\Hy@useHidKeytrue

```

```

3784 \fi
3785 }

```

The value of the `bordercolor` options are not processed by the color package. Therefore the value consists of space separated rgb numbers in the range 0 until 1.

Package `xcolor` provides `\XC@bordercolor` since version 1.1. If the two spaces in the color specification are missing, then the value is processed as color specification from package `xcolor` by using `\XC@bordercolor` (since `xcolor` 2004/05/09 v1.11, versions 2005/03/24 v2.02 until 2006/11/28 v2.10 do not work because of a bug that is fixed in 2007/01/21 v2.11).

```

3786 \def\Hy@ColorList{cite,file,link,menu,run,url}
3787 \@for\Hy@temp:=\Hy@ColorList\do{%
3788   \edef\Hy@temp{%
3789     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3790       \noexpand\HyColor@HyperrefBorderColor
3791         {##1}%
3792       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3793         {hyperref}%
3794       {\Hy@temp bordercolor}%
3795     }%
3796   }%
3797   \Hy@temp
3798 }
3799 \define@key{Hyp}{pagebordercolor}{%
3800   \Hy@WarningPageBorderColor
3801 }
3802 \def\Hy@WarningPageBorderColor{%
3803   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3804   \global\let\Hy@WarningPageBorderColor\relax
3805 }
3806 \define@key{Hyp}{allbordercolors}{%
3807   \def\Hy@temp###1##2{%
3808     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3809   }%
3810   \Hy@temp\@citebordercolor{cite}%
3811   \Hy@temp\@filebordercolor{file}%
3812   \Hy@temp\@linkbordercolor{link}%
3813   \Hy@temp\@menubordercolor{menu}%
3814   \Hy@temp\@runbordercolor{run}%
3815   \Hy@temp\@urlbordercolor{url}%
3816 }
3817 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3818 \Hy@DefNameKey{pdfhighlight}{%
3819   \do{/I}{Invert}%
3820   \do{/N}{None}%
3821   \do{/O}{Outline}%
3822   \do{/P}{Push}%
3823 }

```



```

3824 \define@key{Hyp}{pdfborder}{%
3825   \let\Hy@temp\@pdfborder
3826   \def\@pdfborder{#1}%
3827   \Hy@Match\@pdfborder{}{%
3828     ^\HyPat@NonNegativeReal/ %
3829     \HyPat@NonNegativeReal/ %
3830     \HyPat@NonNegativeReal/%
3831     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3832   }{}{%
3833     \Hy@Warning{%
3834       Invalid value '\@pdfborder'\MessageBreak
3835       for option 'pdfborder'.\MessageBreak
3836       Option setting is ignored%
3837     }%
3838     \let\@pdfborder\Hy@temp
3839   }%
3840 }
3841 \define@key{Hyp}{pdfborderstyle}{%
3842   \let\Hy@temp\@pdfborderstyle
3843   \def\@pdfborderstyle{#1}%
3844   \Hy@Match\@pdfborderstyle{}{%
3845     ^%
3846     ( */Type */Border%
3847     | */W +\HyPat@NonNegativeReal/%
3848     | */S */[SDBIU]%
3849     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3850     )* *$%
3851   }{}{%
3852     \Hy@Warning{%
3853       Invalid value '\@pdfborderstyle'\MessageBreak
3854       for option 'pdfborderstyle'.\MessageBreak
3855       Option setting is ignored%
3856     }%
3857     \let\@pdfborderstyle\Hy@temp
3858   }%
3859 }
3860 \def\Hy@setpdfborder{%
3861   \ifx\@pdfborder\@empty
3862     \else
3863       /Border[\@pdfborder]%
3864     \fi
3865     \ifx\@pdfborderstyle\@empty
3866     \else
3867       /BS<<\@pdfborderstyle>>%
3868     \fi
3869 }
3870 \Hy@DefNameKey{pdfpagemode}{%
3871   \do{UseNone}{}%
3872   \do{UseOutlines}{}%
3873   \do{UseThumbs}{}%

```

```

3874 \do{FullScreen}{}%
3875 \do{UseOC}{PDF 1.5}%
3876 \do{UseAttachments}{PDF 1.6}%
3877 }
3878 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3879 \do{UseNone}{}%
3880 \do{UseOutlines}{}%
3881 \do{UseThumbs}{}%
3882 \do{FullScreen}{}%
3883 \do{UseOC}{PDF 1.5}%
3884 \do{UseAttachments}{PDF 1.6}%
3885 }
3886 \Hy@DefNameKey{pdfdirection}{%
3887 \do{L2R}{Left to right}%
3888 \do{R2L}{Right to left}%
3889 }
3890 \Hy@DefNameKey{pdfviewarea}{%
3891 \do{MediaBox}{}%
3892 \do{CropBox}{}%
3893 \do{BleedBox}{}%
3894 \do{TrimBox}{}%
3895 \do{ArtBox}{}%
3896 }
3897 \Hy@DefNameKey{pdfviewclip}{%
3898 \do{MediaBox}{}%
3899 \do{CropBox}{}%
3900 \do{BleedBox}{}%
3901 \do{TrimBox}{}%
3902 \do{ArtBox}{}%
3903 }
3904 \Hy@DefNameKey{pdfprintarea}{%
3905 \do{MediaBox}{}%
3906 \do{CropBox}{}%
3907 \do{BleedBox}{}%
3908 \do{TrimBox}{}%
3909 \do{ArtBox}{}%
3910 }
3911 \Hy@DefNameKey{pdfprintclip}{%
3912 \do{MediaBox}{}%
3913 \do{CropBox}{}%
3914 \do{BleedBox}{}%
3915 \do{TrimBox}{}%
3916 \do{ArtBox}{}%
3917 }
3918 \Hy@DefNameKey{pdfprintscaling}{%
3919 \do{AppDefault}{}%
3920 \do{None}{}%
3921 }
3922 \Hy@DefNameKey{pdfduplex}{%
3923 \do{Simplex}{}%

```

```

3924 \do{DuplexFlipShortEdge}{}%
3925 \do{DuplexFlipLongEdge}{}%
3926 }
3927 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3928 \do{true}{}%
3929 \do{false}{}%
3930 }
3931 \define@key{Hyp}{pdfprintpagerange}{%
3932 \def\@pdfprintpagerange{#1}%
3933 }
3934 \Hy@DefNameKey{pdfnumcopies}{%
3935 \do{2}{two copies}%
3936 \do{3}{three copies}%
3937 \do{4}{four copies}%
3938 \do{5}{five copies}%
3939 }
3940 \define@key{Hyp}{pdfusetitle}[true]{%
3941 \Hy@boolkey{pdfusetitle}{#1}%
3942 }
3943 \def\HyXeTeX@CheckUnicode{%
3944 \ifxetex
3945 \ifHy@unicode
3946 \else
3947 \Hy@WarningNoLine{%
3948 XeTeX driver only supports unicode.\MessageBreak
3949 Enabling option 'unicode'%
3950 }%
3951 \kvsetkeys{Hyp}{unicode}%
3952 \fi
3953 \else
3954 \let\HyXeTeX@CheckUnicode\relax
3955 \fi
3956 }
3957 \def\HyPsd@PrerenderUnicode#1{%
3958 \begingroup
3959 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3960 \else
3961 \sbox0{%
3962 \let\GenericInfo\@gobbletwo
3963 \let\GenericWarning\@gobbletwo
3964 \let\GenericError\@gobblefour
3965 \PrerenderUnicode{#1}%
3966 }%
3967 \fi
3968 \endgroup
3969 }
3970 \define@key{Hyp}{pdftitle}{%
3971 \HyXeTeX@CheckUnicode
3972 \HyPsd@XeTeXBigCharstrue

```

```

3973 \HyPsd@PrerenderUnicode{#1}%
3974 \pdfstringdef\@pdftitle{#1}%
3975 }
3976 \define@key{Hyp}{pdfauthor}{%
3977 \HyXeTeX@CheckUnicode
3978 \HyPsd@XeTeXBigCharstrue
3979 \HyPsd@PrerenderUnicode{#1}%
3980 \pdfstringdef\@pdfauthor{#1}%
3981 }
3982 \define@key{Hyp}{pdfproducer}{%
3983 \HyXeTeX@CheckUnicode
3984 \HyPsd@XeTeXBigCharstrue
3985 \HyPsd@PrerenderUnicode{#1}%
3986 \pdfstringdef\@pdfproducer{#1}%
3987 \ifxetex
3988 \Hy@Warning{%
3989 pdfproducer: %
3990 xdvipdfmx will use its own setting\MessageBreak
3991 instead of the value given%
3992 }%
3993 \else
3994 \def\Hy@temp{hdvipdfm}%
3995 \ifx\Hy@driver\Hy@temp
3996 \Hy@Warning{%
3997 pdfproducer: %
3998 dvipdfm(x) will use its own setting\MessageBreak
3999 instead of the value given%
4000 }%
4001 \fi
4002 \fi
4003 }
4004 \define@key{Hyp}{pdfcreator}{%
4005 \HyXeTeX@CheckUnicode
4006 \HyPsd@XeTeXBigCharstrue
4007 \HyPsd@PrerenderUnicode{#1}%
4008 \pdfstringdef\@pdfcreator{#1}%
4009 }
4010 \define@key{Hyp}{pdfcreationdate}{%
4011 \beginngroup
4012 \Hy@unicodedefalse
4013 \pdfstringdef\@pdfcreationdate{#1}%
4014 \endgroup
4015 }
4016 \define@key{Hyp}{pdfmoddate}{%
4017 \beginngroup
4018 \Hy@unicodedefalse
4019 \pdfstringdef\@pdfmoddate{#1}%
4020 \endgroup
4021 }
4022 \define@key{Hyp}{pdfsubject}{%

```

```

4023 \HyXeTeX@CheckUnicode
4024 \HyPsd@XeTeXBigCharstrue
4025 \HyPsd@PrerenderUnicode{#1}%
4026 \pdfstringdef\@pdfsubject{#1}%
4027 }
4028 \define@key{Hyp}{pdfkeywords}{%
4029 \HyXeTeX@CheckUnicode
4030 \HyPsd@XeTeXBigCharstrue
4031 \HyPsd@PrerenderUnicode{#1}%
4032 \pdfstringdef\@pdfkeywords{#1}%
4033 }
4034 \define@key{Hyp}{pdftrapped}{%
4035 \lowercase{\edef\Hy@temp{#1}}%
4036 \ifx\Hy@temp\HyInfo@trapped@true
4037 \def\@pdftrapped{True}%
4038 \else
4039 \ifx\Hy@temp\HyInfo@trapped@false
4040 \def\@pdftrapped{False}%
4041 \else
4042 \ifx\Hy@temp\HyInfo@trapped@unknown
4043 \def\@pdftrapped{Unknown}%
4044 \else
4045 \ifx\Hy@temp\@empty
4046 \else
4047 \Hy@Warning{%
4048   Unsupported value '#1'\MessageBreak
4049   for option 'pdftrapped'%
4050 }%
4051 \fi
4052 \def\@pdftrapped{}%
4053 \fi
4054 \fi
4055 \fi
4056 }
4057 \def\HyInfo@trapped@true{true}
4058 \def\HyInfo@trapped@false{false}
4059 \def\HyInfo@trapped@unknown{unknown}
4060 \def\HyInfo@TrappedUnsupported{%
4061 \ifx\@pdftrapped\@empty
4062 \else
4063 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4064 \gdef\HyInfo@TrappedUnsupported{}%
4065 \fi
4066 }
4067 \define@key{Hyp}{pdfinfo}{%
4068 \kvsetkeys{pdfinfo}{#1}%
4069 }
4070 \def\Hy@temp#1{%
4071 \lowercase{\Hy@temp@A{#1}}{#1}%
4072 }

```

```

4073 \def\Hy@temp@A#1#2{%
4074   \define@key{pdfinfo}{#2}{%
4075     \hypersetup{pdf#1={##1}}}%
4076   }%
4077 }
4078 \Hy@temp{Title}
4079 \Hy@temp{Author}
4080 \Hy@temp{Keywords}
4081 \Hy@temp{Subject}
4082 \Hy@temp{Creator}
4083 \Hy@temp{Producer}
4084 \Hy@temp{CreationDate}
4085 \Hy@temp{ModDate}
4086 \Hy@temp{Trapped}
4087 \newif\ifHyInfo@AddonUnsupported
4088 \kv@set@family@handler{pdfinfo}{%
4089   \HyInfo@AddonHandler{#1}{#2}%
4090 }
4091 \let\HyInfo@do\relax
4092 \def\HyInfo@AddonHandler#1#2{%
4093   \ifx\kv@value\relax
4094     \Hy@Warning{%
4095       Option 'pdfinfo': ignoring key '\kv@key' without value%
4096     }%
4097   \else
4098     \edef\EscapeName\HyInfo@KeyEscaped{\kv@key}%
4099     \edef\UnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4100     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4101       \ifHyInfo@AddonUnsupported
4102         \Hy@Warning{%
4103           This driver does not support additional\MessageBreak
4104           information entries, therefore\MessageBreak
4105           '\kv@key' is ignored%
4106         }%
4107       \else
4108         \def\HyInfo@tmp##1{%
4109           \kv@define@key{pdfinfo}{##1}{%
4110             \HyXeTeX@CheckUnicode
4111             \HyPsd@XeTeXBigCharstrue
4112             \HyPsd@PrerenderUnicode{####1}%
4113             \pdfstringdef\HyInfo@Value{####1}%
4114             \global\expandafter
4115             \let\csname HyInfo@Value@##1\endcsname
4116               \HyInfo@Value
4117           }%
4118         }%
4119         \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
4120         \global\expandafter
4121         \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
4122         \csname KV@pdfinfo@\HyInfo@Key\endcsname

```

```

4123 \xdef\HyInfo@AddonList{%
4124 \HyInfo@AddonList
4125 \HyInfo@do{\HyInfo@Key}%
4126 }%
4127 \kv@parse@normalized{%
4128 \HyInfo@Key={#2}%
4129 }{%
4130 \kv@processor@default{pdfinfo}%
4131 }%
4132 \fi
4133 \else
4134 \kv@parse@normalized{%
4135 \HyInfo@Key={#2}%
4136 }{%
4137 \kv@processor@default{pdfinfo}%
4138 }%
4139 \fi
4140 \fi
4141 }
4142 \def\HyInfo@GenerateAddons{%
4143 \ifHyInfo@AddonUnsupported
4144 \def\HyInfo@Addons{}%
4145 \else
4146 \begingroup
4147 \toks@{}%
4148 \def\HyInfo@do##1{%
4149 \edef\EscapeName\HyInfo@Key{##1}%
4150 \edef\x{%
4151 \toks@{%
4152 \the\toks@
4153 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4154 }%
4155 }%
4156 \x
4157 }%
4158 \HyInfo@AddonList
4159 \edef\x{\endgroup
4160 \def\noexpand\HyInfo@Addons{\the\toks@}%
4161 }%
4162 \x
4163 \fi
4164 }
4165 \global\let\HyInfo@AddonList\ltx@empty
4166 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4167 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4168 \let\setpdfinkmargin\@gobble
4169 \def\calculate@pdfview#1 #2\{%
4170 \def\@pdfview{#1}%
4171 \ifx\#2\%

```

```

4172 \def\@pdfviewparams{ -32768}%
4173 \else
4174 \def\@pdfviewparams{ #2}%
4175 \fi
4176 }
4177 \begingroup\expandafter\expandafter\expandafter\endgroup
4178 \expandafter\ifx\csname numexpr\endcsname\relax
4179 \def\Hy@number#1{%
4180 \expandafter\@firstofone\expandafter{\number#1}%
4181 }%
4182 \else
4183 \def\Hy@number#1{%
4184 \the\numexpr#1\relax
4185 }%
4186 \fi
4187 \define@key{Hyp}{pdfstartpage}{%
4188 \ifx\#1\%
4189 \let\@pdfstartpage\ltx@empty
4190 \else
4191 \edef\@pdfstartpage{\Hy@number{#1}}%
4192 \fi
4193 }%
4194 \define@key{Hyp}{pdfstartview}{%
4195 \ifx\#1\%
4196 \let\@pdfstartview\ltx@empty
4197 \else
4198 \hypercalcbpdef\@pdfstartview{/#1}%
4199 \fi
4200 }
4201 \def\HyPat@NonNegativeReal/{%
4202 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4203 }
4204 \define@key{Hyp}{pdfremotestartview}{%
4205 \ifx\#1\%
4206 \def\@pdfremotestartview{/Fit}%
4207 \else
4208 \hypercalcbpdef\@pdfremotestartview{#1}%
4209 \edef\@pdfremotestartview{\@pdfremotestartview}%
4210 \Hy@Match\@pdfremotestartview{%
4211 ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
4212 -?(null|\HyPat@NonNegativeReal/) %
4213 (null|\HyPat@NonNegativeReal/)|%
4214 Fit(|B|%
4215 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4216 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4217 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4218 )}$%
4219 }{%
4220 \Hy@Warning{%
4221 Invalid value '\@pdfremotestartview'\MessageBreak

```



```

4222         of 'pdfremotestartview'\MessageBreak
4223         is replaced by 'Fit'%
4224     }%
4225     \let\@pdfremotestartview\@empty
4226 }%
4227 \ifx\@pdfremotestartview\@empty
4228     \def\@pdfremotestartview{/Fit}%
4229 \else
4230     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4231 \fi
4232 \fi
4233 }
4234 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4235 \define@key{Hyp}{pdftoolbar}[true]{%
4236     \Hy@boolkey{pdftoolbar}{#1}%
4237 }
4238 \define@key{Hyp}{pdfmenubar}[true]{%
4239     \Hy@boolkey{pdfmenubar}{#1}%
4240 }
4241 \define@key{Hyp}{pdfwindowui}[true]{%
4242     \Hy@boolkey{pdfwindowui}{#1}%
4243 }
4244 \define@key{Hyp}{pdffitwindow}[true]{%
4245     \Hy@boolkey{pdffitwindow}{#1}%
4246 }
4247 \define@key{Hyp}{pdfcenterwindow}[true]{%
4248     \Hy@boolkey{pdfcenterwindow}{#1}%
4249 }
4250 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4251     \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4252 }
4253 \define@key{Hyp}{pdfa}[true]{%
4254     \Hy@boolkey{pdfa}{#1}%
4255 }
4256 \define@key{Hyp}{pdfnewwindow}[true]{%
4257     \def\Hy@temp{#1}%
4258     \ifx\Hy@temp\@empty
4259         \Hy@pdfnewwindowsetfalse
4260     \else
4261         \Hy@pdfnewwindowsettrue
4262         \Hy@boolkey{pdfnewwindow}{#1}%
4263     \fi
4264 }
4265 \def\Hy@SetNewWindow{%
4266     \ifHy@pdfnewwindowset
4267         /NewWindow %
4268     \ifHy@pdfnewwindow true\else false\fi
4269 \fi
4270 }
4271 \Hy@DefNameKey{pdfpagelayout}{%

```

```

4272 \do{SinglePage}{}%
4273 \do{OneColumn}{}%
4274 \do{TwoColumnLeft}{}%
4275 \do{TwoColumnRight}{}%
4276 \do{TwoPageLeft}{PDF 1.5}%
4277 \do{TwoPageRight}{PDF 1.5}%
4278 }
4279 \define@key{Hyp}{pdflang}{%
4280 \edef\@pdflang{#1}%
4281 \def\Hy@temp{\relax}%
4282 \ifx\@pdflang\Hy@temp
4283 \let\@pdflang\relax
4284 \fi
4285 \ifx\@pdflang\relax
4286 \else
4287 \ifx\@pdflang\ltx@empty
4288 \else

```

Test according to ABNF of RFC 3066.

```

4289 \Hy@Match\@pdflang{icase}{%
4290 ~%
4291 [a-z]{1,8}%
4292 (-[a-z0-9]{1,8})*%
4293 $%
4294 }{%

```

Test according to ABNF of RFC 5646.

```

4295 \Hy@Match\@pdflang{icase}{%
4296 ~%
4297 (%
4298 % langtag
4299 (% language
4300 [a-z]{2,3}%
4301 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4302 |[a-z]{4}% reserved for future use
4303 |[a-z]{5,8}% registered language subtag
4304 )%
4305 (-[a-z]{4})?% script
4306 (-([a-z]{2}|[0-9]{3}))?% region
4307 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4308 (-[0-9a-wyz](-[a-z0-9]{2,8})+)*% extension
4309 (-x(-[a-z0-9]{1,8})+)?% privateuse
4310 % privateuse
4311 |x(-[a-z0-9]{1,8})+%
4312 % grandfathered/irregular
4313 |en-GB-oed%
4314 |i-(ami|bnn|default|enochian|hak|klingson|lux|
4315 mingo|navajo|pwn|tao|tay|tsu)%
4316 |sgn-(BE-FR|BE-NL|CH-DE)%
4317 % grandfathered/regular

```

```

4318      |art-lojban%
4319      |cel-gaulish%
4320      |no-(bok|nyn)%
4321      |zh-(guoyu|hakka|min|min-nan|xiang)%
4322      )%
4323      $%
4324      }{%

```

Test for unique extensions.

```

4325      \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4326      \Hy@Match\@pdflang{icase}{~x-}{}{%
4327      % remove privateuse
4328      \edef\Hy@temp{-\@pdflang}%
4329      \Hy@Match\Hy@temp{icase}{%
4330      ~%
4331      (%
4332      (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4333      )%
4334      -x-%
4335      }{%
4336      \edef\Hy@temp{%
4337      \expandafter\strip@prefix\pdfastmatch1%
4338      }%
4339      }{}%
4340      \Hy@Match\Hy@temp{icase}{%
4341      (-[a-wyz0-9]-).*\ltx@backslashchar1%
4342      }{%
4343      \Hy@Warning{%
4344      Invalid language identifier ‘#1’\MessageBreak
4345      for option ‘pdflang’, because it violates\MessageBreak
4346      well-formedness defined in RFC 4646\MessageBreak
4347      by duplicate singleton subtags%
4348      }%
4349      \let\@pdflang\relax
4350      }{}%
4351      }%
4352      }{}%

```

User-assigned country codes are forbidden in language tags (RFC 3066).

```

4353      \ifx\@pdflang\relax
4354      \else
4355      \Hy@Match\@pdflang{icase}{%
4356      ~%
4357      [a-zA-Z]{2}-%
4358      (%
4359      aa|AA|%
4360      [qQ][m-zA-Z]|%
4361      [xX][a-zA-Z]|%
4362      zz|ZZ%
4363      )%
4364      (-|)$)%

```

```

4365     }{%
4366     \Hy@Warning{%
4367     Invalid language identifier '#1'\MessageBreak
4368     for option 'pdflang' because of invalid country code%
4369     \MessageBreak
4370     in second subtag (RFC 3066)%
4371     }%
4372     \let\@pdflang\relax
4373     }{%}%
4374     \fi
4375   }{%
4376   \Hy@Warning{%
4377   Invalid language identifier '#1'\MessageBreak
4378   for option 'pdflang', because it violates\MessageBreak
4379   well-formedness defined in RFC 5646%
4380   }%
4381   \let\@pdflang\relax
4382   }%
4383 }{%
4384 \Hy@Warning{%
4385 Invalid language identifier '#1'\MessageBreak
4386 for option 'pdflang' (RFC 3066)%
4387 }%
4388 \let\@pdflang\relax
4389 }%
4390 \fi
4391 \fi
4392 }
4393 \define@key{Hyp}{pdfpagelabels}[true]{%
4394 \Hy@boolkey{pdfpagelabels}{#1}%
4395 }
4396 \define@key{Hyp}{pdfescapeform}[true]{%
4397 \Hy@boolkey{pdfescapeform}{#1}%
4398 }

```

Default values:

```

4399 \def\@linkbordercolor{1 0 0}
4400 \def\@urlbordercolor{0 1 1}
4401 \def\@menubordercolor{1 0 0}
4402 \def\@filebordercolor{0 .5 .5}
4403 \def\@runbordercolor{0 .7 .7}
4404 \def\@citebordercolor{0 1 0}
4405 \def\@pdfhighlight{/I}
4406 \let\@pdftitle\ltx@empty
4407 \let\@pdfauthor\ltx@empty
4408 \let\@pdfproducer\relax
4409 \def\@pdfcreator{LaTeX with hyperref package}
4410 \let\@pdfcreationdate\ltx@empty
4411 \let\@pdfmoddate\ltx@empty
4412 \let\@pdfsubject\ltx@empty

```

```

4413 \let\@pdfkeywords\ltx@empty
4414 \let\@pdftrapped\ltx@empty
4415 \let\@pdfpagescrop\ltx@empty
4416 \def\@pdfstartview{/Fit}
4417 \def\@pdfremotestartview{/Fit}
4418 \def\@pdfstartpage{1}
4419 \let\@pdfprintpagerange\ltx@empty
4420 \let\@pdflang\relax
4421 \let\PDF@SetupDoc\@empty
4422 \let\PDF@FinishDoc\@empty
4423 \let\phantomsection\@empty
4424 \let\special@paper\@empty
4425 \def\HyperDestNameFilter#1{#1}
4426 \Hy@AtBeginDocument{%
4427   \begingroup
4428     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4429     \dimen@=\x\relax
4430     \ifdim\dimen@>\z@
4431       \else
4432         \dimen@=11in\relax
4433         \Hy@WarningNoLine{%
4434           Height of page (\expandafter\string\x) %
4435           is invalid (\the\x),\MessageBreak
4436           using 11in%
4437         }%
4438       \fi
4439       \dimen@=0.99626401\dimen@
4440       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4441     \endgroup
4442 }
4443 \def\HyInd@EncapChar{\|}

```

Allow the user to use `\ExecuteOptions` in the `cfg` file even though this package does not use the normal option mechanism. Use `\hyper@normalise` as a scratch macro, since it is going to be defined in a couple of lines anyway.

```

4444 \let\hyper@normalise\ExecuteOptions
4445 \let\ExecuteOptions\hypersetup
4446 \Hy@RestoreCatcodes
4447 \InputIfFileExists{hyperref.cfg}{-}{-}
4448 \Hy@SetCatcodes
4449 \let\ExecuteOptions\hyper@normalise
4450 \ifx\Hy@MaybeStopNow\relax
4451 \else
4452   \Hy@stoppearlytrue
4453   \expandafter\Hy@MaybeStopNow
4454 \fi
4455 \Hy@stoppearlyfalse

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the *keyval* package. This section was written by David Carlisle.

```

4456 \SetupKeyvalOptions{family=Hyp}
4457 \DeclareLocalOptions{%
4458   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4459 }

    Add option tex4ht if package tex4ht is loaded.
4460 \@ifpackagewith{hyperref}{tex4ht}{%
4461 }{%
4462   \@ifpackageloaded{tex4ht}{%
4463     \PassOptionsToPackage{tex4ht}{hyperref}%
4464   }{%
4465     \ltx@ifundefined{HCode}{%
4466     }{%
4467       \begingroup
4468       \def\Hy@pkg{tex4ht}%
4469       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4470         \def\Hy@param{#2#3}%
4471         \ifx\Hy@param\ltx@empty
4472           \expandafter\ltx@gobble
4473         \else
4474           \def\Hy@param{#3}%
4475           \ifx\Hy@param\Hy@pkg
4476             \PassOptionsToPackage{#2}{tex4ht}%
4477             \expandafter\expandafter\expandafter\@gobble
4478           \else
4479             \expandafter\expandafter\expandafter\ltx@firstofone
4480           \fi
4481         \fi
4482         {\Hy@temp@A#4\Hy@NIL}%
4483       }%
4484       \expandafter
4485       \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4486     \endgroup
4487     \PassOptionsToPackage{tex4ht}{hyperref}%
4488   }%
4489 }%
4490 }

4491 \let\ReadBookmarks\relax
4492 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4493 \def\Hy@xspace@end{}
4494 \ltx@ifundefined{xspaceaddexceptions}{%
4495   \Hy@AtBeginDocument{%
4496     \ltx@ifundefined{xspaceaddexceptions}{%
4497     }{%
4498       \def\Hy@xspace@end{%

```

```

4499     \ltx@gobble{end for xspace}%
4500   }%
4501   \xspaceaddexceptions{%
4502     \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4503   }%
4504 }%
4505 }%
4506 }{%
4507   \def\Hy@xspace@end{%
4508     \ltx@gobble{end for xspace}%
4509   }%
4510   \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4511 }

```

15.2 Option draft

```

4512 \Hy@AtBeginDocument{%
4513   \ifHy@draft
4514     \let\hyper@@anchor\@gobble
4515     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4516     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4517     \def\hyper@anchorend{\Hy@xspace@end}%
4518     \let\hyper@linkstart\@gobbletwo
4519     \def\hyper@linkend{\Hy@xspace@end}%
4520     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4521     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4522     \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4523     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4524     \let\PDF@SetupDoc\@empty
4525     \let\PDF@FinishDoc\@empty
4526     \let\@fifthoffive\@secondoftwo
4527     \let\@secondoffive\@secondoftwo
4528     \let\ReadBookmarks\relax
4529     \let\WriteBookmarks\relax
4530     \Hy@WarningNoLine{Draft mode on}%
4531   \fi
4532   \Hy@DisableOption{draft}%
4533   \Hy@DisableOption{nolinks}%
4534   \Hy@DisableOption{final}%
4535 }

```

15.3 PDF/A

```

4536 \Hy@DisableOption{pdfa}
4537 \ifHy@pdfa
4538   \kvsetkeys{Hyp}{pdfversion=1.4}%
4539   \Hy@DisableOption{pdfversion}%
4540   \def\Hy@Acrobatmenu#1#2{%
4541     \leavevmode
4542     \begingroup
4543     \edef\x{#1}%

```

```

4544 \@onelevel@sanitize\x
4545 \ifx\x\Hy@NextPage
4546 \let\y=Y%
4547 \else
4548 \ifx\x\Hy@PrevPage
4549 \let\y=Y%
4550 \else
4551 \ifx\x\Hy@FirstPage
4552 \let\y=Y%
4553 \else
4554 \ifx\x\Hy@LastPage
4555 \let\y=Y%
4556 \else
4557 \let\y=N%
4558 \fi
4559 \fi
4560 \fi
4561 \fi
4562 \expandafter\endgroup
4563 \ifx\y Y%
4564 \else
4565 \Hy@Error{%
4566 PDF/A: Named action ‘#1’ is not permitted%
4567 }\@ehc
4568 {#2}%
4569 \expandafter\@gobble
4570 \fi
4571 }%
4572 \def\Hy@temp#1{%
4573 \expandafter\def\csname Hy@#1\endcsname{#1}%
4574 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4575 }%
4576 \Hy@temp{NextPage}%
4577 \Hy@temp{PrevPage}%
4578 \Hy@temp{FirstPage}%
4579 \Hy@temp{LastPage}%
4580 \else
4581 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4582 \fi

```

15.4 Patch for babel’s \texttilde

Babel does not define \texttilde in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, \texttilde is defined in babel manner.

```

4583 \Hy@nextfalse
4584 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4585 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4586 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4587 \ifHy@next

```



```

4588 \let\texttilde\~%
4589 \fi

4590 \def\Hy@wrapper@babel#1#2{%
4591 \begingroup
4592 \Hy@safe@activetrue
4593 \set@display@protect
4594 \edef\x{#2}%
4595 \@onelevel@sanitize\x
4596 \toks@{#1}%
4597 \edef\x{\endgroup\the\toks@\{x\}}%
4598 \x
4599 }

4600 \def\Hy@WrapperDef#1{%
4601 \begingroup
4602 \escapechar=\m@ne
4603 \xdef\Hy@gtemp{%
4604 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4605 }%
4606 \endgroup
4607 \edef#1{%
4608 \noexpand\Hy@wrapper@babel
4609 \expandafter\noexpand\Hy@gtemp
4610 }%
4611 \expandafter\def\Hy@gtemp
4612 }

4613 \ifHy@hyperfigures
4614 \Hy@Info{Hyper figures ON}%
4615 \else
4616 \Hy@Info{Hyper figures OFF}%
4617 \fi

4618 \ifHy@nesting
4619 \Hy@Info{Link nesting ON}%
4620 \else
4621 \Hy@Info{Link nesting OFF}%
4622 \fi

4623 \ifHy@hyperindex
4624 \Hy@Info{Hyper index ON}%
4625 \else
4626 \Hy@Info{Hyper index OFF}%
4627 \fi

4628 \ifHy@plainpages
4629 \Hy@Info{Plain pages ON}%
4630 \else
4631 \Hy@Info{Plain pages OFF}%
4632 \fi

4633 \ifHy@backref
4634 \Hy@Info{Backreferencing ON}%
4635 \else
4636 \Hy@Info{Backreferencing OFF}%

```

```

4637 \fi
4638 \ifHy@typexml
4639   \Hy@AtEndOfPackage{%
4640     \RequirePackage{color}%
4641     \RequirePackage{nameref}[2012/07/28]%
4642   }%
4643 \fi
4644 \Hy@DisableOption{typexml}
4645 \ifHy@implicit
4646   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4647 \else
4648   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4649 \def\MaybeStopEarly{%
4650   \Hy@Message{Stopped early}%
4651   \Hy@AtBeginDocument{%
4652     \PDF@FinishDoc
4653     \gdef\PDF@FinishDoc{}}%
4654   }%
4655 \endinput
4656 }%
4657 \Hy@AtBeginDocument{%
4658   \let\autoref\ref
4659   \let\autopageref\pageref
4660   \ifx\@pdfpagemode\@empty
4661     \gdef\@pdfpagemode{UseNone}%
4662   \fi
4663   \global\Hy@backreffalse
4664 }%
4665 \Hy@AtEndOfPackage{%
4666   \global\let\ReadBookmarks\relax
4667   \global\let\WriteBookmarks\relax
4668 }%
4669 \fi
4670 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4671 \Hy@AtEndOfPackage{%
4672   \@ifpackageloaded{tex4ht}{%
4673     \def\Hy@driver{htex4ht}%
4674     \Hy@texhttrue
4675   }{}%

```

Some drivers can be detected. Check for these drivers, whether the given driver option is ok. Otherwise force the right driver or use the default driver.

```

4676   \ifx\Hy@driver\@empty
4677   \else
4678     \def\Hy@temp{hpdfTeX}%
4679     \ifpdf
4680       \ifx\Hy@driver\Hy@temp

```

```

4681 \else
4682 \Hy@WarningNoLine{%
4683   Wrong driver '\Hy@driver.def';\MessageBreak
4684   pdfTeX is running in PDF mode.\MessageBreak
4685   Forcing driver '\Hy@temp.def'%
4686 }%
4687 \let\Hy@driver\Hy@temp
4688 \fi
4689 \else
4690 \ifx\Hy@driver\Hy@temp
4691 \Hy@WarningNoLine{%
4692   Wrong driver '\Hy@driver.def';\MessageBreak
4693   pdfTeX is not running in PDF mode.\MessageBreak
4694   Using default driver%
4695 }%
4696 \let\Hy@driver\@empty
4697 \fi
4698 \fi
4699 \fi
4700 \ifHy@texht
4701 \else
4702 \ifx\Hy@driver\@empty
4703 \else
4704 \def\Hy@temp{hxdetex}%
4705 \ifxdetex
4706 \ifx\Hy@driver\Hy@temp
4707 \else
4708 \Hy@WarningNoLine{%
4709   Wrong driver '\Hy@driver.def';\MessageBreak
4710   XeTeX is running.\MessageBreak
4711   Forcing driver '\Hy@temp.def' for XeTeX%
4712 }%
4713 \let\Hy@driver\Hy@temp
4714 \fi
4715 \fi
4716 \fi
4717 \fi
4718 \ifx\Hy@driver\@empty
4719 \else
4720 \def\Hy@temp{hvtexhtm}%
4721 \ifvtexhtml
4722 \ifx\Hy@driver\Hy@temp
4723 \else
4724 \Hy@WarningNoLine{%
4725   Wrong driver '\Hy@driver.def';\MessageBreak
4726   VTeX is running in HTML mode.\MessageBreak
4727   Forcing driver '\Hy@temp.def'%
4728 }%
4729 \let\Hy@driver\Hy@temp
4730 \fi

```

```

4731 \else
4732   \ifx\Hy@driver\Hy@temp
4733     \Hy@WarningNoLine{%
4734       Wrong driver ‘\Hy@driver.def’;\MessageBreak
4735       VTeX is not running in HTML mode.\MessageBreak
4736       Using default driver%
4737     }%
4738     \let\Hy@driver\@empty
4739   \fi
4740 \fi
4741 \fi

```

If the driver is not given, find the right driver or use the default driver.

```

4742 \let\HyOpt@DriverType\ltx@empty
4743 \ifx\HyOpt@CustomDriver\ltx@empty
4744   \ifx\Hy@driver\@empty
4745     \def\HyOpt@DriverType{ (autodetected)}%
4746     \providecommand*{\Hy@defaultdriver}{hypertex}%
4747     \ifpdf
4748       \def\Hy@driver{hpdfTEX}%
4749     \else
4750       \ifxetex
4751         \def\Hy@driver{hxetex}%
4752       \else
4753         \ifvtexhtml
4754           \def\Hy@driver{hvtexhtm}%
4755           \def\MaybeStopEarly{%
4756             \Hy@Message{Stopped early}%
4757             \Hy@AtBeginDocument{%
4758               \PDF@FinishDoc
4759               \gdef\PDF@FinishDoc{}}%
4760           }%
4761           \endinput
4762         }%
4763       \else
4764         \ifvtexpdf
4765           \def\Hy@driver{hvtex}%
4766         \else
4767           \ifvtexps
4768             \def\Hy@driver{hvtex}%
4769           \else
4770             \ifx\HyOpt@DriverFallback\ltx@empty
4771               \let\Hy@driver\Hy@defaultdriver
4772               \def\HyOpt@DriverType{ (default)}%
4773             \else
4774               \begingroup
4775               \toks@{\expandafter{\HyOpt@DriverFallback}}%
4776               \edef\x{\endgroup
4777                 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4778             }%

```

```

4779         \x
4780         \ifx\Hy@driver\ltx@empty
4781             \let\Hy@driver\Hy@defaultdriver
4782             \def\HyOpt@DriverType{ (default)}%
4783         \else
4784             \def\HyOpt@DriverType{ (fallback)}%
4785         \fi
4786     \fi
4787 \fi
4788 \fi
4789 \fi
4790 \fi
4791 \fi
4792 \ifx\Hy@driver\Hy@defaultdriver
4793     \def\Hy@temp{hdvwind}%
4794     \ifx\Hy@temp\Hy@driver
4795         \kvsetkeys{Hyp}{colorlinks}%
4796         \PassOptionsToPackage{dviwindo}{color}%
4797     \fi
4798 \fi
4799 \fi
4800 \else
4801     \def\HyOpt@DriverType{ (custom)}%
4802     \let\Hy@driver\HyOpt@CustomDriver
4803 \fi
4804 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4805 \chardef\Hy@VersionChecked=0 %
4806 \input{\Hy@driver.def}%
4807 \ifcase\Hy@VersionChecked
4808     \Hy@VersionCheck{\Hy@driver.def}%
4809 \fi
4810 \let\@unprocessedoptions\relax
4811 \Hy@RestoreCatcodes
4812 \Hy@DisableOption{tex4ht}%
4813 \Hy@DisableOption{pdftex}%
4814 \Hy@DisableOption{nativepdf}%
4815 \Hy@DisableOption{dvipdfm}%
4816 \Hy@DisableOption{dvipdfmx}%
4817 \Hy@DisableOption{dvipdfmx-outline-open}%
4818 \Hy@DisableOption{pdfmark}%
4819 \Hy@DisableOption{dvips}%
4820 \Hy@DisableOption{hypertex}%
4821 \Hy@DisableOption{vtex}%
4822 \Hy@DisableOption{vtexpdfmark}%
4823 \Hy@DisableOption{dviwindo}%
4824 \Hy@DisableOption{dvipsone}%
4825 \Hy@DisableOption{textures}%
4826 \Hy@DisableOption{latex2html}%
4827 \Hy@DisableOption{ps2pdf}%
4828 \Hy@DisableOption{xetex}%

```

```

4829 \Hy@DisableOption{driverfallback}%
4830 \Hy@DisableOption{customdriver}%
4831 \Hy@DisableOption{pdfversion}%
4832 }

```

Support for open outlines is enabled for XeTeX ≥ 0.9995 . I don't know, if older versions also support this. AFAIK older dvipdfmx versions will break, thus the switch cannot be turned on by default.

```

4833 \newif\ifHy@DvipdfmxOutlineOpen
4834 \ifxetex
4835 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4836 \else
4837 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4838 \Hy@DvipdfmxOutlineOpentru
4839 \fi
4840 \fi
4841 \begingroup\expandafter\expandafter\expandafter\endgroup
4842 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4843 \else
4844 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4845 \Hy@DvipdfmxOutlineOpentru
4846 \fi
4847 \fi

```

15.4.2 Bookmarks

```

4848 \def\WriteBookmarks{0}
4849 \def\@bookmarkopenstatus#1{%
4850 \ifHy@bookmarksopen

```

The purpose of the `\@firstofone-number-space-construct` is that no `\relax` will be inserted by TeX before the `\else`:

```

4851 \ifnum#1<\expandafter\@firstofone\expandafter
4852     {\number\@bookmarksopenlevel} % explicit space
4853 \else
4854     -%
4855 \fi
4856 \else
4857     -%
4858 \fi
4859 }
4860 \ifHy@bookmarks
4861 \Hy@Info{Bookmarks ON}%
4862 \ifx\@pdfpagemode\@empty
4863 \def\@pdfpagemode{UseOutlines}%
4864 \fi
4865 \else
4866 \let\@bookmarkopenstatus\ltx@gobble
4867 \Hy@Info{Bookmarks OFF}%
4868 \Hy@AtEndOfPackage{%
4869 \global\let\ReadBookmarks\relax
4870 \global\let\WriteBookmarks\relax

```

```

4871 }%
4872 \ifx\@pdfpagemode\@empty
4873 \def\@pdfpagemode{UseNone}%
4874 \fi
4875 \fi
4876 \Hy@DisableOption{bookmarks}

    Add wrapper for setting standard catcodes (babel's shorthands).
4877 \def\Hy@CatcodeWrapper#1{%
4878 \let\Hy@endWrap\ltx@empty
4879 \def\TMP@EnsureCode##1##2{%
4880 \edef\Hy@endWrap{%
4881 \Hy@endWrap
4882 \catcode##1 \the\catcode##1\relax
4883 }%
4884 \catcode##1 ##2\relax
4885 }%
4886 \TMP@EnsureCode{10}{12}% ^^J
4887 \TMP@EnsureCode{33}{12}% !
4888 \TMP@EnsureCode{34}{12}% "
4889 \TMP@EnsureCode{36}{3}% $ (math)
4890 \TMP@EnsureCode{38}{4}% & (alignment)
4891 \TMP@EnsureCode{39}{12}% '
4892 \TMP@EnsureCode{40}{12}% (
4893 \TMP@EnsureCode{41}{12}% )
4894 \TMP@EnsureCode{42}{12}% *
4895 \TMP@EnsureCode{43}{12}% +
4896 \TMP@EnsureCode{44}{12}% ,
4897 \TMP@EnsureCode{45}{12}% -
4898 \TMP@EnsureCode{46}{12}% .
4899 \TMP@EnsureCode{47}{12}% /
4900 \TMP@EnsureCode{58}{12}% :
4901 \TMP@EnsureCode{59}{12}% ;
4902 \TMP@EnsureCode{60}{12}% <
4903 \TMP@EnsureCode{61}{12}% =
4904 \TMP@EnsureCode{62}{12}% >
4905 \TMP@EnsureCode{63}{12}% ?
4906 \TMP@EnsureCode{91}{12}% [
4907 \TMP@EnsureCode{93}{12}% ]
4908 \TMP@EnsureCode{94}{7}% ^ (superscript)
4909 \TMP@EnsureCode{95}{8}% _ (subscript)
4910 \TMP@EnsureCode{96}{12}% '
4911 \TMP@EnsureCode{124}{12}% |
4912 \TMP@EnsureCode{126}{13}% ~ (active)
4913 #1\relax
4914 \Hy@endWrap
4915 }

    \HyColor@UseColor expects a macro as argument. It contains the color spec-
    ification.
4916 \Hy@AtBeginDocument{%

```

```

4917 \ifHy@ocgcolorlinks
4918 \kvsetkeys{Hyp}{colorlinks}%
4919 \ifHy@pdfa
4920 \Hy@Warning{%
4921     PDF/A: Optional Content Groups are prohibited,\MessageBreak
4922     using 'colorlinks' instead of 'ocgcolorlinks'%
4923 }%
4924 \Hy@ocgcolorlinksfalse
4925 \fi
4926 \fi
4927 \ifHy@ocgcolorlinks
4928 \else
4929 \Hy@DisableOption{ocgcolorlinks}%
4930 \fi
4931 \ifHy@colorlinks
4932 \def\@pdfborder{0 0 0}%
4933 \let\@pdfborderstyle\@empty
4934 \ifHy@typexml
4935 \else
4936 \Hy@CatcodeWrapper{%
4937 \RequirePackage{color}%
4938 }%
4939 \fi
4940 \def\Hy@colorlink#1{%
4941 \begingroup
4942 \HyColor@UseColor#1%
4943 }%
4944 \def\Hy@endcolorlink{\endgroup}%
4945 \Hy@Info{Link coloring ON}%
4946 \else
4947 \ifHy@frenchlinks
4948 \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4949 \def\Hy@endcolorlink{\endgroup}%
4950 \Hy@Info{French linking ON}%
4951 \else
for grouping consistency:
4952 \def\Hy@colorlink#1{\begingroup}%
4953 \def\Hy@endcolorlink{\endgroup}%
4954 \Hy@Info{Link coloring OFF}%
4955 \fi
4956 \fi
4957 \Hy@DisableOption{colorlinks}%
4958 \Hy@DisableOption{frenchlinks}%
4959 \ifHy@texht
4960 \long\def\@firstoffive#1#2#3#4#5{#1}%
4961 \long\def\@secondoffive#1#2#3#4#5{#2}%
4962 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4963 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4964 \long\def\@fifthoffive#1#2#3#4#5{#5}%

```



```

4965 \providecommand*\@safe@activetrue{%
4966 \providecommand*\@safe@activesfalse{%
4967 \def\T@ref#1{%
4968 \Hy@safe@activetrue
4969 \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4970 \Hy@safe@activesfalse
4971 }%
4972 \def\T@pageref#1{%
4973 \Hy@safe@activetrue
4974 \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4975 \Hy@safe@activesfalse
4976 }%
4977 \else
4978 \ifHy@typexml
4979 \else
4980 \Hy@CatcodeWrapper{%
4981 \RequirePackage{nameref}[2012/07/28]%
4982 }%
4983 \fi
4984 \fi
4985 \DeclareRobustCommand\ref{%
4986 \@ifstar\@refstar\T@ref
4987 }%
4988 \DeclareRobustCommand\pageref{%
4989 \@ifstar\@pagerefstar\T@pageref
4990 }%
4991 % \@ifclassloaded{memoir}{%
4992 % \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4993 % \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4994 % }%
4995 % }\ltx@secondoftwo
4996 % {%
4997 % \DeclareRobustCommand*\@nameref{%
4998 % \@ifstar\@mem@titlerefno link\@mem@titleref
4999 % }%
5000 % }{%
5001 \DeclareRobustCommand*\@nameref{%
5002 \@ifstar\@namerefstar\T@nameref
5003 }%
5004 % }%
5005 }
5006 \Hy@AtBeginDocument{%
5007 \ifHy@texht
5008 \else
5009 \Hy@CatcodeWrapper\ReadBookmarks
5010 \fi
5011 }
5012 \ifHy@backref
5013 \RequirePackage{backref}%

```

```

5014 \else
5015   \let\Hy@backout\@gobble
5016 \fi
5017 \Hy@DisableOption{backref}
5018 \Hy@DisableOption{pagebackref}
5019 \Hy@activeanchorfalse

```

16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: `\#`, `\%`, `\~` produce `#`, `%`, `~` respectively. for consistency `\~` produces `~` as well. At the *top level only* ie not within the argument of another command, you can use `#` and `%` unescaped, to produce themselves. even if, say, `#` is entered as `#` it will be converted to `\#` so it does not die if written to an aux file etc. `\#` will write as `#` locally while making `\specials`.

```

5020 \begingroup
5021   \endlinechar=-1 %
5022   \catcode'\^^A=14 %
5023   \catcode'\^^M\active
5024   \catcode'\%\active
5025   \catcode'\#\active
5026   \catcode'\_\active
5027   \catcode'\$\active
5028   \catcode'\&\active
5029   \gdef\hyper@normalise{^^A
5030     \begingroup
5031       \catcode'\^^M\active
5032       \def^^M{ }^^A
5033       \catcode'\%\active
5034       \let%\@percentchar
5035       \let\%\@percentchar
5036       \catcode'\#\active
5037       \def#{\hyper@hash}^^A
5038       \def#{\hyper@hash}^^A
5039       \@makeother\&^^A
5040       \edef&{\string&}^^A
5041       \edef\&{\string&}^^A
5042       \edef\textunderscore{\string_}^^A
5043       \let_\textunderscore
5044       \catcode'\_\active
5045       \let_\textunderscore
5046       \let~\hyper@tilde
5047       \let~\hyper@tilde
5048       \let\textasciitilde\hyper@tilde
5049       \let\\\@backslashchar
5050       \edef${\string$}^^A
5051       \Hy@safe@activestrue
5052       \hyper@n@rmalise

```

```

5053 }^^A
5054 \catcode'\#=6 ^^A
5055 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
5056 \gdef\hyper@n@rmalise#1#2{^^A
5057 \def\Hy@tempa{#2}^^A
5058 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
5059 \ltx@ReturnAfterElseFi{^^A
5060 \hyper@@normalise{#1}^^A
5061 }^^A
5062 \else
5063 \ltx@ReturnAfterFi{^^A
5064 \hyper@@normalise{#1}{#2}^^A
5065 }^^A
5066 \fi
5067 }^^A
5068 \gdef\hyper@@normalise#1#2{^^A
5069 \edef\Hy@tempa{^^A
5070 \endgroup
5071 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
5072 }^^A
5073 \Hy@tempa
5074 }^^A
5075 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
5076 #1^^A
5077 \ifx\limits#2\limits
5078 \else
5079 \ltx@ReturnAfterFi{^^A
5080 \Hy@RemovePercentCr #2\@nil
5081 }^^A
5082 \fi
5083 }^^A
5084 \endgroup
5085 \providecommand*\hyper@chars{%
5086 \let\#\hyper@hash
5087 \let\%\@percentchar
5088 \Hy@safe@activetrue
5089 }

5090 \def\hyperlink#1#2{%
5091 \hyper@@link{#1}{#2}%
5092 }

5093 \def\Hy@VerboseLinkStart#1#2{%
5094 \ifHy@verbose
5095 \begingroup
5096 \Hy@safe@activetrue
5097 \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
5098 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
5099 \xdef\Hy@VerboseGlobalTemp{%
5100 \Hy@VerboseGlobalTemp, %
5101 line \the\inputlineno

```

```

5102     }%
5103 \endgroup
5104 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
5105 \@onelevel@sanitize\Hy@VerboseLinkInfo
5106 \fi
5107 }

5108 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
5109 \def\Hy@VerboseLinkStop{%
5110   \ifHy@verbose
5111     \begingroup
5112     \edef\x{\endgroup
5113       \write\m@ne{%
5114         Package ‘hyperref’ Info: %
5115         End of reference \Hy@VerboseLinkInfo.%
5116       }%
5117     }%
5118     \x
5119   \fi
5120 }

5121 \def\Hy@VerboseAnchor#1{%
5122   \ifHy@verbose
5123     \begingroup
5124     \Hy@safe@activetrue
5125     \Hy@Info{Anchor ‘\HyperDestNameFilter{#1}’}%
5126   \endgroup
5127 \fi
5128 }

5129 \def\Hy@AllowHyphens{%
5130   \relax
5131   \ifhmode
5132     \penalty\@M
5133     \hskip\z@skip
5134   \fi
5135 }

5136 \DeclareRobustCommand*\href{[1][]{%
5137   \begingroup
5138   \setkeys{href}{#1}%
5139   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
5140 }
5141 \def\Hy@href#1{%
5142   \hyper@normalise\href@
5143 }
5144 \begingroup
5145 \catcode'\$=6 %
5146 \catcode'\#=12 %
5147 \gdef\href@\$1{\expandafter\href@split$1##\}%
5148 \gdef\href@split$1##$2##$3\\$4{%
5149   \hyper@@link{$1}{$2}{$3}{$4}%

```

```

5150 \endgroup
5151 }%
5152 \endgroup

```

Option ‘page’.

```

5153 \define@key{href}{page}{%
5154 \def\Hy@href@page{#1}%
5155 }
5156 \let\Hy@href@page\@empty
5157 \newcount\c@Hy@tempcnt
5158 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
5159 \def\Hy@MakeRemoteAction{%
5160 \ifx\Hy@href@page\@empty
5161 \def\Hy@href@page{0}%
5162 \else
5163 \setcounter{Hy@tempcnt}{\Hy@href@page}%
5164 \ifnum\c@Hy@tempcnt<\@ne
5165 \Hy@Warning{%
5166 Invalid page number (\theHy@tempcnt)\MessageBreak
5167 for remote PDF file.\MessageBreak
5168 Using page 1%
5169 }%
5170 \def\Hy@href@page{0}%
5171 \else
5172 \global\advance\c@Hy@tempcnt\m@ne
5173 \edef\Hy@href@page{\theHy@tempcnt}%
5174 \fi
5175 \fi

```

If a next action is set, then also a new window should be opened. Otherwise AR reclaims that it closes the current file with discarding the next actions.

```

5176 \ifx\Hy@href@nextactionraw\@empty
5177 \else
5178 \Hy@pdfnewwindowsettrue
5179 \Hy@pdfnewwindowtrue
5180 \fi
5181 }

```

Option ‘pdfremotestartview’.

```

5182 \define@key{href}{pdfremotestartview}{%
5183 \setkeys{Hyp}{pdfremotestartview={#1}}%
5184 }

```

Option ‘pdfnewwindow’.

```

5185 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5186 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

5187 \newif\ifHy@href@ismap
5188 \define@key{href}{ismap}[true]{%
5189 \ltx@ifundefined{Hy@href@ismap#1}{%

```

```

5190 \Hy@Error{%
5191   Invalid value (#1) for key 'ismap'.\MessageBreak
5192   Permitted values are 'true' or 'false'.\MessageBreak
5193   Ignoring 'ismap'%
5194 } \@ehc
5195 }{%
5196   \csname Hy@href@ismap#1\endcsname
5197 }%
5198 }

```

Option 'nextactionraw'.

```

5199 \let\Hy@href@nextactionraw\@empty
5200 \define@key{href}{nextactionraw}{%
5201   \edef\Hy@href@nextactionraw{#1}%
5202   \ifx\Hy@href@nextactionraw\@empty
5203   \else
5204     \Hy@Match\Hy@href@nextactionraw}{%
5205       ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|)%
5206       \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
5207     }{}{%
5208       \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
5209       \Hy@href@nextactionraw\MessageBreak
5210       The action is discarded%
5211     }%
5212   }%
5213   \ifx\Hy@href@nextactionraw\@empty
5214   \else
5215     \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5216   \fi
5217 \fi
5218 }
5219 \def\HyPat@ObjRef/{.+}

```

Load package url.sty and save the meaning of the original \url in \nolinkurl.

```

5220 \RequirePackage{url}
5221 \let\HyOrg@url\url
5222 \def\Hurl{\begingroup \Url}
5223 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
5224 \def\nolinkurl@#1{\Hurl{#1}}
5225 \DeclareRobustCommand*\url{\hyper@normalise\url@}
5226 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

5227 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
5228 \providecommand\hyper@image[2]{#2}

5229 \def\hypertarget#1#2{%
5230   \ifHy@nesting
5231     \hyper@@anchor{#1}{#2}%
5232   \else
5233     \hyper@@anchor{#1}{\relax}#2%
5234   \fi
5235 }

```

`\hyperref` is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. `\hyperdef` sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a \LaTeX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

5236 \DeclareRobustCommand*\hyperref{%
5237   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
5238 }
5239 \def\Hy@babelnormalise#1[#2]{%
5240   \begingroup
5241     \Hy@safe@activetrue
5242     \edef\Hy@tempa{%
5243       \endgroup
5244       \noexpand#1[#2]}%
5245   }%
5246   \Hy@tempa
5247 }
5248 \def\@hyperref{\hyper@normalise\@hyperref}
5249 \def\@hyperref#1#2#3{%
5250   \edef\ref@one{\ifx\#2\#2\else#2.\fi#3}%
5251   \expandafter\tryhyper@link\ref@one\{#1}%
5252 }
5253 \def\tryhyper@link#1\#2{%
5254   \hyper@@link{#2}{#1}%
5255 }
5256 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
5257 \def\@hyperdef#1#2#3{%, category, name, text
5258   \ifx\#1\%
5259     \def\Hy@AnchorName{#2}%
5260   \else
5261     \def\Hy@AnchorName{#1.#2}%
5262   \fi
5263   \ifHy@nesting
5264     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5265   \else
5266     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5267   \fi
5268 }

```

We also have a need to give a \LaTeX *label* to a hyper reference, to ease the pain of referring to it later.

```

5269 \def\label@hyperref[#1]{%
5270   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5271 }%
5272 \def\label@@hyperref#1#2#3{%
5273   \ifx#1\relax
5274     \protect\G@refundefinedtrue

```

```

5275 \@latex@warning{%
5276   Hyper reference '#2' on page \thepage \space undefined%
5277 }%
5278 \begingroup
5279   #3%
5280 \endgroup
5281 \else
5282   \hyper@@link{\expandafter\@fifthoffive#1}%
5283   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5284 \fi
5285 }
5286 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5287                               % anchor text
5288   \@bsphack
5289   \ifx\\#2\\%
5290     \def\Hy@AnchorName{#3}%
5291   \else
5292     \def\Hy@AnchorName{#2.#3}%
5293   \fi
5294   \if@filesw
5295     \protected@write\@auxout{}{%
5296       \string\newlabel{#1}{\{ }\{ }\{ }\Hy@AnchorName\} }%
5297     }%
5298   \fi
5299   \@esphack
5300   \ifHy@nesting
5301     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5302   \else
5303     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5304   \fi
5305 }

```

16.1 Link box support for XeTeX

```

5306 \newdimen\XeTeXLinkMargin
5307 \setlength{\XeTeXLinkMargin}{2pt}
5308 \ifxetex
5309   \font\XeTeXLink@font=pzdr at 1sp\relax
5310   \newcommand*\XeTeXLink@space{%
5311     \begingroup
5312       \XeTeXLink@font
5313       \@xxxii
5314     \endgroup
5315   }%
5316   \newcommand{\XeTeXLinkBox}[1]{%
5317     \begingroup
5318       \leavevmode
5319       \sbox\z@{#1}%
5320     \begingroup
5321       \dimen@=\dp\z@

```



```

5322 \advance\dimen@\XeTeXLinkMargin
5323 \setbox\tw@=\llap{%
5324 \hb@xt@\XeTeXLinkMargin{%
5325 \lower\dimen@\hbox{\XeTeXLink@space}%
5326 \hss
5327 }%
5328 }%
5329 \dp\tw@=\dp\z@
5330 \ht\tw@=\ht\z@
5331 \copy\tw@
5332 \endgroup
5333 \copy\z@
5334 \dimen@=\ht\z@
5335 \advance\dimen@\XeTeXLinkMargin
5336 \setbox\tw@=\rlap{%
5337 \hb@xt@\XeTeXLinkMargin{%
5338 \hss
5339 \raise\dimen@\hbox{\XeTeXLink@space}%
5340 }%
5341 }%
5342 \dp\tw@=\dp\z@
5343 \ht\tw@=\ht\z@
5344 \copy\tw@
5345 \endgroup
5346 }%
5347 \else
5348 \newcommand*{\XeTeXLinkBox}[1]{%
5349 \begingroup
5350 \leavevmode
5351 \sbox\z@{#1}%
5352 \copy\z@
5353 \endgroup
5354 }%
5355 \fi

```

17 Underlying basic hypertext macros

Links have an optional type, a filename (possibly a URL), an internal name, and some marked text. (Caution: the internal name may contain babel shorthand characters.) If the second parameter is empty, it's an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

5356 \def\hyper@link{\let\Hy@reserved@a\relax
5357 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5358 }
5359 % #1: type
5360 % #2: URL
5361 % #3: destination name
5362 % #4: text
5363 \def\hyper@link@[#1]#2#3#4{%

```

```

5364 \ltx@ifempty{#4}{% link text
5365   \Hy@Warning{Suppressing empty link}%
5366 }{%
5367   \begingroup
5368     \protected@edef\Hy@tempa{#2}%
5369     \edef\Hy@tempb{#3}%
5370     \ifx\Hy@tempa\ltx@empty
5371       \ifx\Hy@tempb\ltx@empty
5372         \Hy@Warning{Suppressing link with empty target}%
5373         \toks@{%
5374           \endgroup
5375           \ltx@secondoftwo
5376         }%
5377       \else
5378         \toks@{%
5379           \endgroup
5380           \hyper@link{#1}%
5381         }%
5382       \fi
5383     \else
5384       \toks@{%
5385         \endgroup
5386         \expandafter\hyper@readexternallink#2\\{#1}%
5387       }%
5388     \fi
5389     \Hy@safe@activesfalse
5390     \toks@\expandafter{%
5391       \the\expandafter\toks@
5392       \expandafter{\Hy@tempb}{#4}%
5393     }%
5394     \the\toks@
5395   }%
5396 }

```

The problem here is that the first (URL) parameter may be a local **file**: reference (in which case some browsers treat it differently) or a genuine URL, in which case we'll have to activate a real Web browser. Note that a simple name is also a URL, as that is interpreted as a relative file name. We have to worry about **#** signs in a local file as well.

```

5397 \def\hyper@readexternallink#1\\#2#3#4{%
5398   \begingroup
5399   \let\\\relax
5400   \expandafter\endgroup
5401   \expandafter\@@hyper@@readexternallink#1\\{#2}{#3}{#4}%
5402 }
5403 \def\@@hyper@@readexternallink#1\\#2#3#4{%

```

Parameters are:

1. The URL or file name

2. The type
3. The internal name
4. The link string

We need to get the 1st parameter properly expanded, so we delimit the arguments rather than passing it inside a group.

```
5404 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5405 }
```

Now (potentially), we are passed: 1) The link type 2) The internal name, 3) the link string, 4) the URL type (http, mailto, file etc), 5) the URL details 6) anything after a real : in the URL 7) the whole URL again

```
5406 \def\@pdftempwordfile{file}%
5407 \def\@pdftempwordrun{run}%
5408 \def\@hyper@readexternallink#1#2#3#4:#5:#6\{#7{%
```

If there are no colons at all (#6 is blank), its a local file; if the URL type (#4) is blank, its probably a Mac filename, so treat it like a file: URL. The only flaw is if its a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

```
5409 \ifx\{#6\}%
5410 \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5411 \else
5412 \ifx\{#4\}%
5413 \@hyper@linkfile file:#7\{#3}{#2}{#7}%
5414 \else
```

If the URL type is ‘file’, pass it for local opening

```
5415 \def\@pdftempa{#4}%
5416 \ifx\@pdftempa\@pdftempwordfile
5417 \@hyper@linkfile#7\{#3}{#2}{#7}%
5418 \else
```

if it starts ‘run:’, its to launch an application.

```
5419 \ifx\@pdftempa\@pdftempwordrun
5420 \ifHy@pdfa
5421 \Hy@Error{%
5422 PDF/A: Launch action is prohibited%
5423 }\@ehc
5424 \begingroup
5425 \leavevmode
5426 #2%
5427 \endgroup
5428 \else
5429 \@hyper@launch#7\{#3}{#2}%
5430 \fi
5431 \else
```

otherwise its a URL

```
5432 \@hyper@linkurl{#3}{#7\ifx\{#2\}\else\hyper@hash#2\fi}%
```

```

5433     \fi
5434     \fi
5435     \fi
5436     \fi
5437 }

```

By default, turn run: into file:

```

5438 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5439   \hyper@linkurl{#2}{%
5440     \Hy@linkfileprefix
5441     #1%
5442     \ifx\\#3\\%
5443     \else
5444       \hyper@hash
5445       #3%
5446     \fi
5447   }%
5448 }

```

D P Story <story@uakron.edu> pointed out that relative paths starting .. fell over. Switched to using \filename@parse to solve this.

```

5449 \def\@hyper@linkfile file:#1\\#2#3#4{%
5450   %file url,link string, name, original uri
5451   \filename@parse{#1}%
5452   \ifx\filename@ext\relax
5453     \edef\filename@ext{\XR@ext}%
5454   \fi
5455   \def\use@file{\filename@area\filename@base.\filename@ext}%
5456   \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5457     \hyper@linkfile{#2}{\use@file}{#3}%
5458   }{%
5459     \ifx\@baseurl\@empty
5460       \hyper@linkurl{#2}{%
5461         #4\ifx\\#3\\%
5462       }%
5463     \else
5464       \hyper@linkurl{#2}{\use@file\ifx\\#3\\%
5465     \fi
5466   }%
5467 }

5468 \def\Hy@IfStringEndsWith#1#2{%
5469   \begingroup
5470   \edef\x{#1}%
5471   \@onelevel@sanitize\x
5472   \edef\x{.\x$}%
5473   \edef\y{#2}%
5474   \@onelevel@sanitize\y
5475   \edef\y{.\y$}%
5476   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5477     \endgroup

```

```

5478 \ifx\relax##2\relax
5479 \expandafter\ltx@secondoftwo
5480 \else
5481 \expandafter\ltx@firstoftwo
5482 \fi
5483 }%
5484 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5485 }

5486 \def\Hy@StringLocalhost{localhost}
5487 \@onelevel@sanitize\Hy@StringLocalhost
5488 \def\Hy@CleanupFile#1{%
5489 \edef#1{#1}%
5490 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5491 }
5492 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5493 \begingroup
5494 \toks@{\endgroup}%
5495 \def\x{#1}%
5496 \ifx\x\@empty
5497 \def\x{#2}%
5498 \ifx\x\@empty
5499 \toks@{\endgroup\def#5{/#3}}%
5500 \else
5501 \@onelevel@sanitize\x
5502 \ifx\x\Hy@StringLocalhost
5503 \toks@{\endgroup\def#5{/#3}}%
5504 \fi
5505 \fi
5506 \fi
5507 \the\toks@
5508 }

```

Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a `\special` around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that `#2` comes here a multiple letters, and the `noexpand` just looks at the first one, putting the rest in the output. Yuck.

```

5509 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5510 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5511 \ifx\\#1\\%
5512 #2\Hy@Warning{Ignoring empty anchor}%
5513 \else
5514 \def\anchor@spot{#2#3}%
5515 \let\put@me@back\@empty
5516 \ifx\relax#2\relax
5517 \else
5518 \ifHy@nesting

```

```

5519 \else
5520 \ifcat a\noexpand#2\relax
5521 \else
5522 \ifcat 0\noexpand#2 \relax
5523 \else
5524 % \typeout{Anchor start is not alphanumeric %
5525 % on input line\the\inputlineno%
5526 % }%
5527 \let\anchor@spot\@empty
5528 \def\put@me@back{#2#3}%
5529 \fi
5530 \fi
5531 \fi
5532 \fi
5533 \ifHy@activeanchor
5534 \anchor@spot
5535 \else
5536 \hyper@anchor{#1}%
5537 \fi
5538 \expandafter\put@me@back
5539 \fi
5540 \let\anchor@spot\@empty
5541 }
5542 \let\anchor@spot\ltx@empty

```

18 Option ‘destlabel’

```

5543 \ifHy@destlabel

\hyper@newdestlabel

5544 \def\hyper@newdestlabel#1#2{%
5545 \begingroup
5546 \Hy@safe@activetrue
5547 \edef\x{\endgroup
5548 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5549 }%
5550 \x
5551 }%

\hyper@destlabel@hook

5552 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5553 \newcommand*{\Hy@DestRename}[2]{%
5554 \ltx@ifundefined{HyDL!#1}{%
5555 \begingroup
5556 \Hy@safe@activetrue
5557 \edef\dest@name{#1}%
5558 \edef\label@name{#2}%

```

```

5559 \hyper@destlabel@hook
5560 \Hy@IsNotEmpty{dest@name}{%
5561 \Hy@IsNotEmpty{label@name}{%
5562 \global\expandafter
5563 \let\csname HyDL!#1\endcsname\ltx@empty
5564 \if@filesw
5565 \protected@write\@auxout{}{%
5566 \string\hyper@newdestlabel
5567 {#1}%
5568 {\label@name}%
5569 }%
5570 \fi
5571 }%
5572 }%
5573 \endgroup
5574 }{}%
5575 }%

```

\HyperDestRename

```

5576 \newcommand*\HyperDestRename[2]{%
5577 \AtBeginDocument{%
5578 \Hy@DestRename{#1}{#2}%
5579 }%
5580 }%
5581 \AtBeginDocument{%
5582 \let\HyperDestRename\Hy@DestRename
5583 }%

```

\Hy@IsNotEmpty

```

5584 \def\Hy@IsNotEmpty#1{%
5585 \ltx@ifundefined{#1}\ltx@gobble{%
5586 \expandafter\ifx\csname#1\endcsname\ltx@empty
5587 \expandafter\ltx@gobble
5588 \else
5589 \expandafter\ltx@firstofone
5590 \fi
5591 }%
5592 }%

5593 \ltx@GlobalAppendToMacro\label@hook{%
5594 \HyperDestRename\@currentHref\label@name
5595 }%

```

\HyperDestLabelReplace

```

5596 \def\HyperDestLabelReplace#1{%
5597 \ltx@ifundefined{HyDL@#1}{%
5598 #1%
5599 }{%
5600 \csname HyDL@#1\endcsname
5601 }%

```

```

5602 }%

\HyperDestNameFilter
5603 \let\HyperDestNameFilter\HyperDestLabelReplace
5604 \else

\hyper@newdestlabel
5605 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5606 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo

5607 \fi
5608 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5609 \AddLineBeginAux{%
5610 \string\providecommand\string\hyper@newdestlabel[2]{}%
5611 }

```

19 Compatibility with the *L^AT_EX2html* package

Map our macro names on to Nikos', so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load `html.sty` first, and then `hyperref.sty`, so that the definitions in `html.sty` take effect, and are then overridden in a few circumstances by this package.

```

5612 \let\htmladdimg\hyperimage
5613 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5614 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5615 \def\htmlref#1#2{% anchor text, label
5616 \label@hyperref[{#2}]{#1}%
5617 }

```

This is really too much. The *L^AT_EX2html* package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the 'printed' way, since we are about fidelity to the page.

```

5618 \def\@latextohtmlX{%
5619 \let\hhyperref\hyperref
5620 \def\hyperref##1##2##3##4{% anchor text for HTML
5621 % text to print before label in print

```



```

5622             % label
5623             % post-label text in print
5624     ##2\ref{##4}##3%
5625 }%
5626 }

```

20 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

20.1 Field flags

The field flags are organized in a bit set.

```

5627 \RequirePackage{bitset}

```

Each flag has a option name, an \if switch, and a bit position. The default is always ‘false’, the flag is clear. This is also the default of the switch created by \newif.

The names of the flags in the PDF specification (1.7) are used as lowercase option names.

```

\HyField@NewFlag #1: type: F annot flags, Ff field flags

```

```

#2: PDF name

```

```

#3: PDF position

```

```

5628 \def\HyField@NewFlag#1#2{%
5629   \lowercase{\HyField@NewOption{#2}}%
5630   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5631 }

```

```

\HyField@NewFlagOnly

```

```

5632 \def\HyField@NewFlagOnly#1#2{%
5633   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5634 }

```

```

\HyField@NewOption #1: option name

```

```

5635 \def\HyField@NewOption#1{%
5636   \expandafter\newif\csname ifFld@#1\endcsname
5637   \define@key{Field}{#1}[true]{%
5638     \lowercase{\Field@boolkey{##1}}{#1}%
5639   }%
5640 }

```

```

\HyField@NewBitsetFlag Package ‘bitset’ uses zero based positions, the PDF specification starts with one.
#1: option

```

#2: PDF name
 #3: type: F annot flags, Ff field flags
 #4: PDF position

```

5641 \def\HyField@NewBitsetFlag#1#2#3#4{%
5642   \begingroup
5643   \count@=#4\relax
5644   \advance\count@\m@ne
5645   \def\x##1{%
5646     \endgroup
5647     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5648     \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5649       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5650         (\number#4) #2%
5651       }%
5652     \else
5653       \expandafter\edef\csname HyField@#3@#1\endcsname{%
5654         \csname HyField@#3@#1\endcsname
5655         /#2%
5656       }%
5657     \fi
5658   }%
5659   \expandafter\x\expandafter{\the\count@}%
5660 }

```

\HyField@UseFlag The bit set is HyField@#1

```

5661 \def\HyField@UseFlag#1#2{%
5662   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5663 }

```

\HyField@@UseFlag

```

5664 \def\HyField@@UseFlag#1#2{%
5665   \bitsetSetValue{HyField@#2}{%
5666     \csname HyField@#2@#1\endcsname
5667   }{%
5668     \csname ifFld@#1\endcsname 1\else 0\fi
5669   }%
5670 }

```

\HyField@SetFlag The bit set is HyField@#1

```

5671 \def\HyField@SetFlag#1#2{%
5672   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5673 }

```

\HyField@@SetFlag

```

5674 \def\HyField@@SetFlag#1#2{%
5675   \bitsetSetValue{HyField@#2}{%
5676     \csname HyField@#2@#1\endcsname
5677   }{1}%
5678 }

```

\HyField@PrintFlags

```
5679 \def\HyField@PrintFlags#1#2{%
5680   \ifHy@verbose
5681     \begingroup
5682     \let\Hy@temp\@empty
5683     \let\MessageBreak\relax
5684     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5685     \bitsetGetSetBitList{HyField@#1}\do{%
5686       \edef\Hy@temp{%
5687         \Hy@temp
5688         \csname HyField@#1@\x\endcsname\MessageBreak
5689       }%
5690     }%
5691   \edef\x{\endgroup
5692     \noexpand\Hy@Info{%
5693       Field flags: %
5694       \expandafter\ifx\@car#1\@nil S\else/\fi
5695       #1 %
5696       \bitsetGetDec{HyField@#1} %
5697       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5698       \Hy@temp
5699     for #2%
5700   }%
5701 } \x
5702 \fi
5703 }
```

20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5704 \HyField@NewFlag{Ff}{ReadOnly}{1}
5705 \HyField@NewFlag{Ff}{Required}{2}
5706 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5707 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5708 \HyField@NewFlag{Ff}{Radio}{16}
5709 \HyField@NewFlag{Ff}{Pushbutton}{17}
5710 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5711 \HyField@NewFlag{Ff}{Multiline}{13}
5712 \HyField@NewFlag{Ff}{Password}{14}
5713 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5714 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5715 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5716 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5717 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```

5718 \HyField@NewFlag{Ff}{Combo}{18}
5719 \HyField@NewFlag{Ff}{Edit}{19}
5720 \HyField@NewFlag{Ff}{Sort}{20}
5721 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5722 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5723 \HyField@NewFlag{Ff}{CommitOnSelChange}{27}% PDF 1.5

```

Signature fields are not supported.

Until 6.76i hyperref uses field option ‘combo’ to set three flags ‘Combo’, ‘Edit’, and ‘Sort’. Option ‘popdown’ sets flag ‘Combo’ only.

```

5724 \newif\ifFld@popdown
5725 \define@key{Field}{popdown}[true]{%
5726   \lowercase{\Field@boolkey{#1}}{popdown}%
5727 }

```

Annotation flags. The form objects are widget annotations. There are two flags for readonly settings, the one in the annotation flags is ignored, instead the other in the field flags is used.

Flag **Print** is not much useful, because hyperref do not use the appearance entry of the annotations for most fields.

```

5728 \HyField@NewFlag{F}{Invisible}{1}
5729 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5730 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5731 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5732 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5733 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5734 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5735 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5736 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5737 \ifHy@pdfa
5738   \def\HyField@PDFAFflagWarning#1#2{%
5739     \Hy@Warning{%
5740       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5741       be set to ‘#2’%
5742     }%
5743   }%
5744   \Fld@invisiblefalse
5745   \def\Fld@invisibletrue{%
5746     \HyField@PDFAFflagWarning{invisible}{false}%
5747   }%
5748   \Fld@hiddenfalse
5749   \def\Fld@hiddentrue{%
5750     \HyField@PDFAFflagWarning{hidden}{false}%
5751   }%
5752   \Fld@printtrue
5753   \def\Fld@printfalse{%
5754     \HyField@PDFAFflagWarning{print}{true}%
5755   }%
5756   \Fld@nozoomtrue
5757   \def\Fld@nozoomfalse{%

```

```

5758 \HyField@PDFAFIagWarning{nozoom}{true}%
5759 }%
5760 \Fld@norotate>true
5761 \def\Fld@norotatefalse{%
5762 \HyField@PDFAFIagWarning{norotate}{true}%
5763 }%
5764 \Fld@noview>false
5765 \def\Fld@noviewtrue{%
5766 \HyField@PDFAFIagWarning{noview}{false}%
5767 }%
5768 \fi

```

Submit flags. Flag 1 Include/Exclude is not supported, use option noexport instead.

```

5769 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5770 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5771 \HyField@NewFlag{Submit}{GetMethod}{4}
5772 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5773 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5774 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5775 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5776 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5777 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5778 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5779 \HyField@NewFlag{Submit}{ExclFKey}{12}
5780 \HyField@NewFlag{Submit}{EmbedForm}{14}

5781 \define@key{Field}{export}{%
5782 \lowercase{\def\Hy@temp{#1}}%
5783 \@ifundefined{Fld@export@\Hy@temp}{%
5784 \@onelevel@sanitize\Hy@temp
5785 \Hy@Error{%
5786 Unknown export format '\Hy@temp'\MessageBreak
5787 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5788 } \@ehc
5789 }{%
5790 \let\Fld@export\Hy@temp
5791 }%
5792 }
5793 \def\Fld@export{fdf}
5794 \@namedef{Fld@export@fdf}{0}%
5795 \@namedef{Fld@export@html}{1}%
5796 \@namedef{Fld@export@xfdf}{2}%
5797 \@namedef{Fld@export@pdf}{3}%

```

20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5798 \def\HyField@FlagsSubmit{%
5799 \bitsetReset{HyField@Submit}%

```

```

5800 \ifcase\@nameuse{Fld@export@\Fld@export} %
5801 % FDF
5802 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5803 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5804 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5805 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5806 \HyField@UseFlag{Submit}{CanonicalFormat}%
5807 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5808 \HyField@UseFlag{Submit}{ExclFKey}%
5809 \HyField@UseFlag{Submit}{EmbedForm}%
5810 \or % HTML
5811 \HyField@SetFlag{Submit}{ExportFormat}%
5812 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5813 \HyField@UseFlag{Submit}{GetMethod}%
5814 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5815 \HyField@UseFlag{Submit}{CanonicalFormat}%
5816 \or % XFDF
5817 \HyField@SetFlag{Submit}{XFDF}%
5818 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5819 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5820 \HyField@UseFlag{Submit}{CanonicalFormat}%
5821 \or % PDF
5822 \HyField@SetFlag{Submit}{SubmitPDF}%
5823 \HyField@UseFlag{Submit}{GetMethod}%
5824 \fi
5825 \HyField@PrintFlags{Submit}{submit button field}%
5826 \bitsetIsEmpty{HyField@Submit}{%
5827 \let\Fld@submitflags\ltx@empty
5828 }{%
5829 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5830 }%
5831 }

```

20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5832 \def\HyField@FlagsAnnot#1{%
5833 \bitsetReset{HyField@F}%
5834 \HyField@UseFlag{F}{Invisible}%
5835 \HyField@UseFlag{F}{Hidden}%
5836 \HyField@UseFlag{F}{Print}%
5837 \HyField@UseFlag{F}{NoZoom}%
5838 \HyField@UseFlag{F}{NoRotate}%
5839 \HyField@UseFlag{F}{NoView}%
5840 \HyField@UseFlag{F}{Locked}%
5841 \HyField@UseFlag{F}{ToggleNoView}%
5842 \HyField@UseFlag{F}{LockedContents}%
5843 \HyField@PrintFlags{F}{#1}%
5844 \bitsetIsEmpty{HyField@F}{%

```

```

5845 \let\Fld@annotflags\ltx@empty
5846 }{%
5847 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}}%
5848 }%
5849 }

```

20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5850 \def\HyField@FlagsPushButton{%
5851 \HyField@FlagsAnnot{push button field}%
5852 \bitsetReset{HyField@Ff}%
5853 \HyField@UseFlag{Ff}{ReadOnly}%
5854 \HyField@UseFlag{Ff}{Required}%
5855 \HyField@UseFlag{Ff}{NoExport}%
5856 \HyField@SetFlag{Ff}{Pushbutton}%
5857 \HyField@PrintFlags{Ff}{push button field}%
5858 \bitsetIsEmpty{HyField@Ff}{%
5859 \let\Fld@flags\ltx@empty
5860 }{%
5861 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5862 }%
5863 }

```

20.1.5 Check box field

\HyField@FlagsCheckBox

```

5864 \def\HyField@FlagsCheckBox{%
5865 \HyField@FlagsAnnot{check box field}%
5866 \bitsetReset{HyField@Ff}%
5867 \HyField@UseFlag{Ff}{ReadOnly}%
5868 \HyField@UseFlag{Ff}{Required}%
5869 \HyField@UseFlag{Ff}{NoExport}%
5870 \HyField@PrintFlags{Ff}{check box field}%
5871 \bitsetIsEmpty{HyField@Ff}{%
5872 \let\Fld@flags\ltx@empty
5873 }{%
5874 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
5875 }%
5876 }

```

20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5877 \def\HyField@FlagsRadioButton{%
5878 \HyField@FlagsAnnot{radio button field}%
5879 \bitsetReset{HyField@Ff}%
5880 \HyField@UseFlag{Ff}{ReadOnly}%
5881 \HyField@UseFlag{Ff}{Required}%

```

```

5882 \HyField@UseFlag{Ff}{NoExport}%
5883 \HyField@UseFlag{Ff}{NoToggleToOff}%
5884 \HyField@SetFlag{Ff}{Radio}%
5885 \HyField@UseFlag{Ff}{RadiosInUnison}%
5886 \HyField@PrintFlags{Ff}{radio button field}%
5887 \bitsetIsEmpty{HyField@Ff}{%
5888   \let\Fld@flags\ltx@empty
5889 }{%
5890   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5891 }%
5892 }

```

20.1.7 Text fields

\HyField@FlagsText

```

5893 \def\HyField@FlagsText{%
5894   \HyField@FlagsAnnot{text field}%
5895   \bitsetReset{HyField@Ff}%
5896   \HyField@UseFlag{Ff}{ReadOnly}%
5897   \HyField@UseFlag{Ff}{Required}%
5898   \HyField@UseFlag{Ff}{NoExport}%
5899   \HyField@UseFlag{Ff}{Multiline}%
5900   \HyField@UseFlag{Ff}{Password}%
5901   \HyField@UseFlag{Ff}{FileSelect}%
5902   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5903   \HyField@UseFlag{Ff}{DoNotScroll}%
5904   \ifFld@comb
5905     \ifcase0\ifFld@multiline
5906       \else\ifFld@password
5907       \else\ifFld@fileselect
5908       \else 1\fi\fi\fi\relax
5909     \Hy@Error{%
5910       Field option ‘comb’ cannot used together with\MessageBreak
5911       ‘multiline’, ‘password’, or ‘fileselect’%
5912     }\@ehc
5913   \else
5914     \HyField@UseFlag{Ff}{Comb}%
5915   \fi
5916 \fi
5917 \HyField@UseFlag{Ff}{RichText}%
5918 \HyField@PrintFlags{Ff}{text field}%
5919 \bitsetIsEmpty{HyField@Ff}{%
5920   \let\Fld@flags\ltx@empty
5921 }{%
5922   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5923 }%
5924 }

```


20.1.8 Choice fields

`\HyField@FlagsChoice`

```

5925 \def\HyField@FlagsChoice{%
5926   \HyField@FlagsAnnot{choice field}%
5927   \bitsetReset{HyField@Ff}%
5928   \HyField@UseFlag{Ff}{ReadOnly}%
5929   \HyField@UseFlag{Ff}{Required}%
5930   \HyField@UseFlag{Ff}{NoExport}%
5931   \HyField@UseFlag{Ff}{Combo}%
5932   \ifFld@combo
5933     \HyField@UseFlag{Ff}{Edit}%
5934   \fi
5935   \HyField@UseFlag{Ff}{Sort}%
5936   \HyField@UseFlag{Ff}{MultiSelect}%
5937   \ifFld@combo
5938     \ifFld@edit
5939       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5940     \fi
5941   \fi
5942   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5943   \HyField@PrintFlags{Ff}{choice field}%
5944   \bitsetIsEmpty{HyField@Ff}{%
5945     \let\Fld@flags\ltx@empty
5946   }{%
5947     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5948   }%
5949 }
```

20.2 Choice field

`\HyField@PDFChoices` **#1**: list of choices in key value syntax, key = exported name, value = displayed text.

Input: `\Fld@default`, `\Fld@value`, `\ifFld@multiselect`

Result: `\Fld@choices` with entries: `/Opt`, `/DV`, `/V`, `/I`.

```

5950 \def\HyField@PDFChoices#1{%
5951   \begingroup
5952   \global\let\Fld@choices\ltx@empty
5953   \let\HyTmp@optlist\ltx@empty
5954   \let\HyTmp@optitem\relax
5955   \count@=0 %
5956   \kv@parse{#1}{%
5957     \Hy@pdfstringdef\kv@key\kv@key
5958     \ifx\kv@value\relax
5959       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5960         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5961       \else
5962         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5963       \fi

```

```

5964 \else
5965 \Hy@pdfstringdef\kv@value\kv@value
5966 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5967 \fi
5968 \edef\HyTmp@optlist{%
5969 \HyTmp@optlist
5970 \HyTmp@optitem{\the\count@}{\kv@key}0%
5971 }%
5972 \advance\count@ by 1 %
5973 \@gobbletwo
5974 }%
5975 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5976 \ifFld@multiselect
5977 \HyField@@PDFChoices{DV}\Fld@default
5978 \HyField@@PDFChoices{V}\Fld@value
5979 \else
5980 \ifx\Fld@default\relax
5981 \else
5982 \pdfstringdef\Hy@gtemp\Fld@default
5983 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5984 \fi
5985 \ifx\Fld@value\relax
5986 \else
5987 \pdfstringdef\Hy@gtemp\Fld@value
5988 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5989 \fi
5990 \fi
5991 \endgroup
5992 }

```

\HyField@@PDFChoices

```

5993 \def\HyField@@PDFChoices#1#2{%
5994 \ifx#2\relax
5995 \else
5996 \count@=0 %
5997 \def\HyTmp@optitem##1##2##3{%
5998 \def\HyTmp@key{##2}%
5999 \ifx\HyTmp@key\Hy@gtemp
6000 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
6001 \HyTmp@optlist
6002 \HyTmp@optitem{##1}{##2}1%
6003 }%
6004 \let\HyTmp@found=Y%
6005 \else
6006 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
6007 \HyTmp@optlist
6008 \HyTmp@optitem{##1}{##2}##3%
6009 }%
6010 \fi
6011 }%

```

```

6012 \expandafter\comma@parse\expandafter{#2}{%
6013 \pdfstringdef\Hy@gttemp\comma@entry
6014 \let\HyTmp@found=N %
6015 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
6016 \HyTmp@optlist
6017 \ifx\HyTmp@found Y%
6018 \advance\count@ by 1 %
6019 \else
6020 \@onelevel@sanitize\comma@entry
6021 \PackageWarning{hyperref}{%
6022 \string\ChoiceBox: Ignoring value '\comma@entry',%
6023 \MessageBreak
6024 it cannot be found in the choices%
6025 }%
6026 \fi
6027 \@gobble
6028 }%
6029 \def\HyTmp@optitem##1##2##3{%
6030 \ifnum##3=1 %
6031 (##2)%
6032 \fi
6033 }%
6034 \ifcase\count@
6035 \or
6036 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
6037 \else
6038 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
6039 \ifx#1V%
6040 \def\HyTmp@optitem##1##2##3{%
6041 \ifnum##3=1 %
6042 \@firstofone{ ##1}%
6043 \fi
6044 }%
6045 \edef\HyTmp@optlist{\HyTmp@optlist}%
6046 \xdef\Fld@choices{%
6047 \Fld@choices
6048 /I\expandafter\@firstofone\HyTmp@optlist}%
6049 }%
6050 \fi
6051 \fi
6052 \fi
6053 }

```

20.3 Forms

\HyField@SetKeys

```

6054 \def\HyField@SetKeys{%
6055 \kvsetkeys{Field}%
6056 }

```

```

6057 \newif\ifFld@checked
6058 \newif\ifFld@disabled
6059 \Fld@checkedfalse
6060 \Fld@disabledfalse
6061 \newcount\Fld@menulength
6062 \newdimen\Field@Width
6063 \newdimen\Fld@charsize
6064 \Fld@charsize=10\p@
6065 \def\Fld@maxlen{0}
6066 \def\Fld@align{0}
6067 \def\Fld@color{0 0 0 rg}
6068 \def\Fld@bcolor{1 1 1}
6069 \def\Fld@bordercolor{1 0 0}
6070 \def\Fld@bordersep{1\p@}
6071 \def\Fld@borderwidth{1}
6072 \def\Fld@borderstyle{S}
6073 \def\Fld@cbsymbol{4}
6074 \def\Fld@radiosymbol{H}
6075 \def\Fld@rotation{0}
6076 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
6077 \def\endForm{\@endForm}
6078 \newif\ifForm@html
6079 \Form@htmlfalse
6080 \def\Form@boolkey#1#2{%
6081   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6082 }
6083 \define@key{Form}{action}{%
6084   \hyper@normalise\Hy@DefFormAction{#1}%
6085 }
6086 \def\Hy@DefFormAction{\def\Form@action}
6087 \def\enc@html{html}
6088 \define@key{Form}{encoding}{%
6089   \def\Hy@tempa{#1}%
6090   \ifx\Hy@tempa\enc@html
6091     \Form@htmltrue
6092     \def\Fld@export{html}%
6093   \else
6094     \Hy@Warning{%
6095       Form 'encoding' key with \MessageBreak
6096       unknown value '#1'%
6097     }%
6098     \Form@htmlfalse
6099   \fi
6100 }
6101 \define@key{Form}{method}{%
6102   \lowercase{\def\Hy@temp{#1}}%
6103   \@ifundefined{Form@method@\Hy@temp}{%
6104     \@onelevel@sanitize\Hy@temp
6105     \Hy@Error{%
6106       Unknown method '\Hy@temp'.\MessageBreak

```

```

6107     Known values are 'post' and 'get'%
6108   }\@ehc
6109 }\{%
6110   \let\Form@method\Hy@temp
6111   \ifcase\@nameuse{Form@method@\Hy@temp} %
6112     \Fld@getmethodfalse
6113   \else
6114     \Fld@getmethodtrue
6115   \fi
6116 }\%
6117 }
6118 \def\Form@method{}
6119 \@namedef{Form@method@post}{0}
6120 \@namedef{Form@method@get}{1}

6121 \newif\ifHyField@NeedAppearances
6122 \def\HyField@NeedAppearancesfalse{%
6123   \global\let\ifHyField@NeedAppearances\iffalse
6124 }
6125 \def\HyField@NeedAppearancetrue{%
6126   \global\let\ifHyField@NeedAppearances\iftrue
6127 }
6128 \HyField@NeedAppearancetrue
6129 \define@key{Form}{NeedAppearances}[true]{%
6130   \edef\Hy@tempa{#1}%
6131   \ifx\Hy@tempa\Hy@true
6132     \HyField@NeedAppearancetrue
6133   \else
6134     \ifx\Hy@tempa\Hy@false
6135       \HyField@NeedAppearancesfalse
6136     \else
6137       \Hy@Error{%
6138         Unexpected value '\Hy@tempa'\MessageBreak
6139         of option 'NeedAppearances' instead of\MessageBreak
6140         'true' or 'false'%
6141       }\@ehc
6142     \fi
6143   \fi
6144 }
6145 \def\Field@boolkey#1#2{%
6146   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6147 }
6148 \ifHy@texht
6149   \newtoks\Field@toks
6150   \Field@toks={ }%
6151   \def\Field@addtoks#1#2{%
6152     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
6153     \@processme
6154   }%
6155 \else

```

```

6156 \def\Hy@WarnHTMLFieldOption#1{%
6157   \Hy@Warning{%
6158     HTML field option '#1'\MessageBreak
6159     is ignored%
6160   }%
6161 }%
6162 \fi
6163 \def\Fld@checkequals#1=#2=#3\\{%
6164   \def\@currDisplay{#1}%
6165   \ifx\\#2\\%
6166     \def\@currValue{#1}%
6167   \else
6168     \def\@currValue{#2}%
6169   \fi
6170 }
6171 \define@key{Field}{loc}{%
6172   \def\Fld@loc{#1}%
6173 }
6174 \define@key{Field}{checked}[true]{%
6175   \lowercase{\Field@boolkey{#1}}{checked}%
6176 }
6177 \define@key{Field}{disabled}[true]{%
6178   \lowercase{\Field@boolkey{#1}}{disabled}%
6179 }
6180 \ifHy@texht
6181   \define@key{Field}{accesskey}{%
6182     \Field@addtoks{accesskey}{#1}%
6183   }%
6184   \define@key{Field}{tabkey}{%
6185     \Field@addtoks{tabkey}{#1}%
6186   }%
6187 \else
6188   \define@key{Field}{accesskey}{%
6189     \Hy@WarnHTMLFieldOption{accesskey}%
6190   }%
6191   \define@key{Field}{tabkey}{%
6192     \Hy@WarnHTMLFieldOption{tabkey}%
6193   }%
6194 \fi
6195 \define@key{Field}{name}{%
6196   \def\Fld@name{#1}%
6197 }
6198 \let\Fld@altname\relax
6199 \define@key{Field}{altname}{%
6200   \def\Fld@altname{#1}%
6201 }
6202 \let\Fld@mappingname\relax
6203 \define@key{Field}{mappingname}{%
6204   \def\Fld@mappingname{#1}%
6205 }

```

```

6206 \define@key{Field}{width}{%
6207   \def\Fld@width{#1}%
6208   \Field@Width#1\setbox0=\hbox{m}%
6209 }
6210 \define@key{Field}{maxlen}{%
6211   \def\Fld@maxlen{#1}%
6212 }
6213 \define@key{Field}{menulength}{%
6214   \Fld@menulength=#1\relax
6215 }
6216 \define@key{Field}{height}{%
6217   \def\Fld@height{#1}%
6218 }
6219 \define@key{Field}{charsize}{%
6220   \setlength{\Fld@charsize}{#1}%
6221 }
6222 \define@key{Field}{borderwidth}{%
6223   \Hy@defaultbp\Fld@borderwidth{#1}%
6224 }
6225 \def\Hy@defaultbp#1#2{%
6226   \begingroup
6227   \afterassignment\Hy@defaultbpAux
6228   \dimen@=#2bp\relax{#1}{#2}%
6229 }
6230 \begingroup\expandafter\expandafter\expandafter\endgroup
6231 \expandafter\ifx\csname dimexpr\endcsname\relax
6232   \def\Hy@defaultbpAux#1\relax#2#3{%
6233     \ifx!#1!%
6234       \endgroup
6235       \def#2{#3}%
6236     \else
6237       \dimen@=.99626\dimen@
6238       \edef\x{\endgroup
6239         \def\noexpand#2{%
6240           \strip@pt\dimen@
6241         }%
6242       }\x
6243     \fi
6244   }%
6245 \else
6246   \def\Hy@defaultbpAux#1\relax#2#3{%
6247     \ifx!#1!%
6248       \endgroup
6249       \def#2{#3}%
6250     \else
6251       \edef\x{\endgroup
6252         \def\noexpand#2{%
6253           \strip@pt\dimexpr\dimen@*800/803\relax
6254         }%
6255       }\x

```

```

6256 \fi
6257 }%
6258 \fi
6259 \define@key{Field}{borderstyle}{%
6260 \let\Hy@temp\Fld@borderstyle
6261 \def\Fld@borderstyle{#1}%
6262 \Hy@Match\Fld@borderstyle}{%
6263 ~[SDBIU]$%
6264 }{}{%
6265 \Hy@Warning{%
6266 Invalid value '@pdfborderstyle'\MessageBreak
6267 for option 'pdfborderstyle'. Valid values:\MessageBreak
6268 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6269 \space\space I (Inset), U (Underline)\MessageBreak
6270 Option setting is ignored%
6271 }%
6272 \let\Fld@borderstyle\Hy@temp
6273 }%
6274 }
6275 \define@key{Field}{bordersep}{%
6276 \def\Fld@bordersep{#1}%
6277 }
6278 \define@key{Field}{default}{%
6279 \def\Fld@default{#1}%
6280 }
6281 \define@key{Field}{align}{%
6282 \def\Fld@align{#1}%
6283 }
6284 \define@key{Field}{value}{%
6285 \def\Fld@value{#1}%
6286 }
6287 \define@key{Field}{checkboxsymbol}{%
6288 \Fld@DingDef\Fld@cbsymbol{#1}%
6289 }
6290 \define@key{Field}{radiosymbol}{%
6291 \Fld@DingDef\Fld@radiosymbol{#1}%
6292 }
6293 \def\Fld@DingDef#1#2{%
6294 \let\Fld@temp\ltx@empty
6295 \Fld@@@DingDef#2\ding{ }\@nil
6296 \let#1\Fld@temp
6297 }
6298 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6299 \expandafter\def\expandafter\Fld@temp\expandafter{%
6300 \Fld@temp
6301 #1%
6302 }%
6303 \ifx\\#3\\%
6304 \expandafter\@gobble
6305 \else

```



```

6306 \begingroup
6307 \lccode'0=#2\relax
6308 \lowercase{\endgroup
6309 \expandafter\def\expandafter\Fld@temp\expandafter{%
6310 \Fld@temp
6311 0%
6312 }%
6313 }%
6314 \expandafter\@firstofone
6315 \fi
6316 {%
6317 \Fld@@DingDef#3\@nil
6318 }%
6319 }

6320 \define@key{Field}{rotation}{%
6321 \def\Fld@rotation{#1}%
6322 }

6323 \define@key{Field}{backgroundcolor}{%
6324 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6325 }
6326 \define@key{Field}{bordercolor}{%
6327 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6328 }
6329 \define@key{Field}{color}{%
6330 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6331 }

6332 \let\Fld@onclick@code\ltx@empty
6333 \let\Fld@format@code\ltx@empty
6334 \let\Fld@validate@code\ltx@empty
6335 \let\Fld@calculate@code\ltx@empty
6336 \let\Fld@keystroke@code\ltx@empty
6337 \let\Fld@onfocus@code\ltx@empty
6338 \let\Fld@onblur@code\ltx@empty
6339 \let\Fld@onmousedown@code\ltx@empty
6340 \let\Fld@onmouseup@code\ltx@empty
6341 \let\Fld@onenter@code\ltx@empty
6342 \let\Fld@onexit@code\ltx@empty
6343 \def\Hy@temp#1{%
6344 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6345 }
6346 \def\Hy@@temp#1#2{%
6347 \ifHy@pdfa
6348 \define@key{Field}{#2}{%
6349 \Hy@Error{%
6350 PDF/A: Additional action '#2' is prohibited%
6351 }\@ehc
6352 }%
6353 \else
6354 \define@key{Field}{#2}{%

```

```

6355     \def#1{##1}%
6356   }%
6357   \fi
6358 }
6359 \Hy@temp{keystroke}
6360 \Hy@temp{format}
6361 \Hy@temp{validate}
6362 \Hy@temp{calculate}
6363 \Hy@temp{onfocus}
6364 \Hy@temp{onblur}
6365 \Hy@temp{onenter}
6366 \Hy@temp{onexit}

6367 \let\Fld@calculate@sortkey\ltx@empty
6368 \define@key{Field}{calculatesortkey}[1]{%
6369   \def\Fld@calculate@sortkey{#1}%
6370 }

6371 \ifHy@texht
6372   \def\Hy@temp#1{%
6373     \define@key{Field}{#1}{%
6374       \Field@addtoks{#1}{##1}%
6375     }%
6376   }%
6377   \else
6378     \def\Hy@temp#1{%
6379       \define@key{Field}{#1}{%
6380         \Hy@WarnHTMLFieldOption{#1}%
6381       }%
6382     }%
6383   \fi
6384 \Hy@temp{ondblclick}
6385 \Hy@temp{onmousedown}
6386 \Hy@temp{onmouseup}
6387 \Hy@temp{onmouseover}
6388 \Hy@temp{onmousemove}
6389 \Hy@temp{onmouseout}
6390 \Hy@temp{onkeydown}
6391 \Hy@temp{onkeyup}
6392 \Hy@temp{onselect}
6393 \Hy@temp{onchange}
6394 \Hy@temp{onkeypress}
6395 \ifHy@texht
6396   \define@key{Field}{onclick}{%
6397     \Field@addtoks{onclick}{#1}%
6398   }%
6399   \else
6400     \ifHy@pdfa
6401       \define@key{Field}{onclick}{%
6402         \Hy@Error{%
6403           PDF/A: Action 'onclick' is prohibited%

```

```

6404     }\@ehc
6405   }%
6406 \else
6407   \define@key{Field}{onclick}{%
6408     \def\Fld@onclick@code{#1}%
6409   }%
6410 \fi
6411 \fi

6412 \DeclareRobustCommand\TextField{%
6413   \@ifnextchar[{\@TextField}{\@TextField[]}%
6414 }
6415 \DeclareRobustCommand\ChoiceMenu{%
6416   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6417 }
6418 \DeclareRobustCommand\CheckBox{%
6419   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6420 }
6421 \DeclareRobustCommand\PushButton{%
6422   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6423 }
6424 \DeclareRobustCommand\Gauge{%
6425   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6426 }
6427 \DeclareRobustCommand\Submit{%
6428   \@ifnextchar[{\@Submit}{\@Submit[]}%
6429 }
6430 \DeclareRobustCommand\Reset{%
6431   \@ifnextchar[{\@Reset}{\@Reset[]}%
6432 }
6433 \def\LayoutTextField#1#2{% label, field
6434   #1 #2%
6435 }
6436 \def\LayoutChoiceField#1#2{% label, field
6437   #1 #2%
6438 }
6439 \def\LayoutCheckField#1#2{% label, field
6440   #1 #2%
6441 }
6442 \def\LayoutPushButtonField#1{% button
6443   #1%
6444 }
6445 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6446 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6447 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6448 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6449 \def\MakeButtonField#1{%
6450   \sbox0{%
6451     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6452   }%

```

```

6453 \@tempdima\ht0 %
6454 \advance\@tempdima by \Fld@borderwidth bp %
6455 \advance\@tempdima by \Fld@borderwidth bp %
6456 \ht0\@tempdima
6457 \@tempdima\dp0 %
6458 \advance\@tempdima by \Fld@borderwidth bp %
6459 \advance\@tempdima by \Fld@borderwidth bp %
6460 \dp0\@tempdima
6461 \box0\relax
6462 }
6463 \def\DefaultHeightofSubmit{14pt}
6464 \def\DefaultWidthofSubmit{2cm}
6465 \def\DefaultHeightofReset{14pt}
6466 \def\DefaultWidthofReset{2cm}
6467 \def\DefaultHeightofCheckBox{\baselineskip}
6468 \def\DefaultWidthofCheckBox{\baselineskip}
6469 \def\DefaultHeightofChoiceMenu{\baselineskip}
6470 \def\DefaultWidthofChoiceMenu{\baselineskip}
6471 \def\DefaultHeightofText{\baselineskip}
6472 \def\DefaultHeightofTextMultiline{4\baselineskip}
6473 \def\DefaultWidthofText{3cm}
6474 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6475 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6476 \def\DefaultOptionsofPushButton{print}
6477 \def\DefaultOptionsofCheckBox{print}
6478 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
6479 \def\DefaultOptionsofListBox{print}
6480 \def\DefaultOptionsofComboBox{print,edit,sort}
6481 \def\DefaultOptionsofPopdownBox{print}
6482 \def\DefaultOptionsofRadio{print,notoggetooff}

```

21 Setup

```

6483 \ifHy@hyperfigures
6484 \Hy@Info{Hyper figures ON}%
6485 \else
6486 \Hy@Info{Hyper figures OFF}%
6487 \fi
6488 \ifHy@nesting
6489 \Hy@Info{Link nesting ON}%
6490 \else
6491 \Hy@Info{Link nesting OFF}%
6492 \fi
6493 \ifHy@hyperindex
6494 \Hy@Info{Hyper index ON}%
6495 \else
6496 \Hy@Info{Hyper index OFF}%

```

```

6497 \fi
6498 \ifHy@backref
6499   \Hy@Info{backreferencing ON}%
6500 \else
6501   \Hy@Info{backreferencing OFF}%
6502 \fi
6503 \ifHy@colorlinks
6504   \Hy@Info{Link coloring ON}%
6505 \else
6506   \Hy@Info{Link coloring OFF}%
6507 \fi
6508 \ifHy@ocgcolorlinks
6509   \Hy@Info{Link coloring with OCG ON}%
6510 \else
6511   \Hy@Info{Link coloring with OCG OFF}%
6512 \fi
6513 \ifHy@pdfa
6514   \Hy@Info{PDF/A mode ON}%
6515 \else
6516   \Hy@Info{PDF/A mode OFF}%
6517 \fi

```

22 Low-level utility macros

We need unrestricted access to the #, ~ and " characters, so make them nice macros.

```

6518 \edef\hyper@hash{\string#}
6519 \edef\hyper@tilde{\string~}
6520 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6521 \def\@currentHref{Doc-Start}
6522 \let\Hy@footnote@currentHref\@empty

```

We give the start of document a special label; this is used in backreferencing-by-section, to allow for cites before any sectioning commands. Set up PDF info.

```

6523 \Hy@AtBeginDocument{%
6524   \Hy@pdfstringtrue
6525   \PDF@SetupDoc
6526   \let\PDF@SetupDoc\@empty
6527   \Hy@DisableOption{pdfpagescrop}%
6528   \Hy@DisableOption{pdfpagemode}%
6529   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6530   \Hy@DisableOption{pdfdirection}%
6531   \Hy@DisableOption{pdfviewarea}%
6532   \Hy@DisableOption{pdfviewclip}%
6533   \Hy@DisableOption{pdfprintarea}%
6534   \Hy@DisableOption{pdfprintclip}%
6535   \Hy@DisableOption{pdfprintscaling}%
6536   \Hy@DisableOption{pdfduplex}%

```

```

6537 \Hy@DisableOption{pdfpicktraybypdfsize}%
6538 \Hy@DisableOption{pdfprintpagerange}%
6539 \Hy@DisableOption{pdfnumcopies}%
6540 \Hy@DisableOption{pdfstartview}%
6541 \Hy@DisableOption{pdfstartpage}%
6542 \Hy@DisableOption{pdftoolbar}%
6543 \Hy@DisableOption{pdfmenubar}%
6544 \Hy@DisableOption{pdfwindowui}%
6545 \Hy@DisableOption{pdfwindow}%
6546 \Hy@DisableOption{pdfcenterwindow}%
6547 \Hy@DisableOption{pdfdisplaydoctitle}%
6548 \Hy@DisableOption{pdfpagelayout}%
6549 \Hy@DisableOption{pdflang}%
6550 \Hy@DisableOption{baseurl}%
6551 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6552 \Hy@pdfstringfalse
6553 }

Ignore star from referencing macros:
6554 \LetLtxMacro\NoHy@OrgRef\ref
6555 \DeclareRobustCommand*{\ref}{%
6556 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6557 }
6558 \LetLtxMacro\NoHy@OrgPageRef\pageref
6559 \DeclareRobustCommand*{\pageref}{%
6560 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6561 }

```

23 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop `hyperref` playing havoc in the front matter.

```

6562 \def\NoHyper{%
6563 \def\hyper@link@{##1}##2##3##4{##4\Hy@xspace@end}%
6564 \def\hyper@anchor##1##2{##2\Hy@xspace@end}%
6565 \global\let\hyper@livelink\hyper@link
6566 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6567 \let\hyper@anchor\ltx@gobble
6568 \let\hyper@anchorstart\ltx@gobble
6569 \def\hyper@anchorend{\Hy@xspace@end}%
6570 \let\hyper@linkstart\ltx@gobbletwo
6571 \def\hyper@linkend{\Hy@xspace@end}%
6572 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6573 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6574 \let\Hy@backout\@gobble
6575 }
6576 \def\stop@hyper{%

```

```

6577 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6578 \let\Hy@backout\@gobble
6579 \let\hyper@@anchor\ltx@gobble
6580 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6581 \let\hyper@anchor\ltx@gobble
6582 \let\hyper@anchorstart\ltx@gobble
6583 \def\hyper@anchorend{\Hy@xspace@end}%
6584 \let\hyper@linkstart\ltx@gobbletwo
6585 \def\hyper@linkend{\Hy@xspace@end}%
6586 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6587 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6588 }
6589 \def\endNoHyper{%
6590 \global\let\hyper@link\hyper@livelink
6591 }
6592 \</package>

```

24 Package nohyperref

This package is introduced by Sebastian Rahtz.

Package nohyperref is a dummy package that defines some low level and some top-level commands. It is done for jadetex, which calls hyperref low-level commands, but it would also be useful with people using normal hyperref, who really do not want the package loaded at all.

Some low-level commands:

```

6593 \*nohyperref
6594 \RequirePackage{letltxmacro}[2008/06/13]
6595 \let\hyper@@anchor\@gobble
6596 \def\hyper@link#1#2#3{#3}%
6597 \let\hyper@anchorstart\@gobble
6598 \let\hyper@anchorend\@empty
6599 \let\hyper@linkstart\@gobbletwo
6600 \let\hyper@linkend\@empty
6601 \def\hyper@linkurl#1#2{#1}%
6602 \def\hyper@linkfile#1#2#3{#1}%
6603 \def\hyper@link@[#1]#2#3{}%
6604 \let\PDF@SetupDoc\@empty
6605 \let\PDF@FinishDoc\@empty
6606 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6607 \def\Acrobatmenu#1#2{\leavevmode#2}
6608 \let\pdfstringdefDisableCommands\@gobbletwo
6609 \let\texorpdfstring\@firstoftwo
6610 \let\pdfbookmark\@undefined
6611 \newcommand\pdfbookmark[3][{}]{
6612 \let\phantomsection\@empty
6613 \let\hypersetup\@gobble

```

```

6614 \let\hyperbaseurl\@gobble
6615 \newcommand*{\href}[3][\#3]
6616 \let\hyperdef\@gobbletwo
6617 \let\hyperlink\@gobble
6618 \let\hypertarget\@gobble
6619 \def\hyperref{%
6620   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6621 }
6622 \long\def\@gobbleopt[#1]{%
6623 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6624 \LetLtxMacro\NoHy@OrgRef\ref
6625 \DeclareRobustCommand*{\ref}{%
6626   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6627 }
6628 \LetLtxMacro\NoHy@OrgPageRef\pageref
6629 \DeclareRobustCommand*{\pageref}{%
6630   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6631 }
6632 \nohyperref

```

25 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```

6633 \*package
6634 \Hy@AtBeginDocument{%

```

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

```

6635 \if@filesw
6636   \ifHy@typexml
6637     \immediate\closeout\@mainaux
6638     \immediate\openout\@mainaux\jobname.aux\relax
6639     \immediate\write\@auxout{<relaxxml>\relax}%
6640   \fi
6641   \immediate\write\@auxout{%
6642     \string\providecommand\string\HyperFirstAtBeginDocument{%
6643       \string\AtBeginDocument}^^J%
6644     \string\HyperFirstAtBeginDocument{%
6645       \string\ifx\string\hyper@anchor\string\@undefined^^J%
6646       \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6647       \string\gdef\string\contentsline%
6648         \string#1\string#2\string#3\string#4{%
6649         \string\oldcontentsline%
6650         {\string#1}{\string#2}{\string#3}}^^J%

```


26 Title strings

If options `pdftitle` and `pdfauthor` are not used, these informations for the pdf information dictionary can be extracted by the nd

```

6690 \ifHy@pdfusetitle
6691   \let\HyOrg@title\title
6692   \let\HyOrg@author\author
6693   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
6694   \def\Hy@scanopttitle[#1]{%
6695     \gdef\Hy@title{#1}%
6696     \HyOrg@title{#1}%
6697   }%
6698   \def\Hy@scantitle#1{%
6699     \gdef\Hy@title{#1}%
6700     \HyOrg@title{#1}%
6701   }%
6702   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6703   \def\Hy@scanoptauthor[#1]{%
6704     \gdef\Hy@author{#1}%
6705     \HyOrg@author{#1}%
6706   }%
6707   \def\Hy@scanauthor#1{%
6708     \gdef\Hy@author{#1}%
6709     \HyOrg@author{#1}%
6710   }%

```

The case, that `or` or `re` given before `hyperref` is loaded, is much more complicate, because LaTeX initializes the macros `title` and `author` with LaTeX error and warning messages.

```

6711 \begingroup
6712   \def\process@me#1\@nil#2{%
6713     \expandafter\let\expandafter\x\csname @#2\endcsname
6714     \edef\y{\expandafter\strip@prefix\meaning\x}%
6715     \def\c##1##2\@nil{%
6716       \ifx\\##1\\%
6717         \else
6718           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6719             \expandafter{\x}%
6720         \fi
6721       }%
6722     \expandafter\c\y\relax#1\@nil
6723   }%
6724   \expandafter\process@me\string\@latex@\@nil{title}%
6725   \expandafter\process@me\string\@latex@\@nil{author}%
6726 \endgroup
6727 \fi
6728 \Hy@DisableOption{pdfusetitle}

```

Macro `\Hy@UseMaketitleInfos` is used in the driver files, before the information entries are used.

The newline macro `\newline` or `\\` is much more complicate. In the title a good replacement can be a space, but can be already a space after `\\` in the title string. So this space is removed by scanning for the next non-empty argument.

In the macro `\author` the newline can perhaps separate the different authors, so the newline expands here to a comma with space.

The possible arguments such as space or the optional argument after the newline macros are not detected.

```

6729 \def\Hy@UseMaketitleString#1{%
6730   \ltx@ifundefined{Hy@#1}{-}{%
6731     \begingroup
6732     \let\Hy@saved@hook\pdfstringdefPreHook
6733     \pdfstringdefDisableCommands{%
6734       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6735       \let\newline\\%
6736     }%
6737     \expandafter\ifx\csname @pdf#1\endcsname\@empty
6738       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6739         \csname Hy@#1\endcsname\@empty
6740       }%
6741     \fi
6742     \global\let\pdfstringdefPreHook\Hy@saved@hook
6743   \endgroup
6744 }%
6745 }
6746 \def\Hy@newline@title#1{ #1}
6747 \def\Hy@newline@author#1{, #1}
6748 \def\Hy@UseMaketitleInfos{%
6749   \Hy@UseMaketitleString{title}%
6750   \Hy@UseMaketitleString{author}%
6751 }

```

27 Page numbers

This stuff is done by Heiko Oberdiek.

28 Every page

```

6752 \RequirePackage{atbegshi}[2007/09/09]
6753 \let\Hy@EveryPageHook\ltx@empty
6754 \let\Hy@EveryPageBoxHook\ltx@empty
6755 \let\Hy@FirstPageHook\ltx@empty
6756 \AtBeginShipout{%
6757   \Hy@EveryPageHook
6758   \ifx\Hy@EveryPageBoxHook\ltx@empty
6759     \else
6760     \setbox\AtBeginShipoutBox=\vbox{%
6761       \offinterlineskip

```

```

6762 \Hy@EveryPageBoxHook
6763 \box\AtBeginShipoutBox
6764 }%
6765 \fi
6766 }
6767 \ltx@iffileloaded{hpdftex.def}{%
6768 \AtBeginShipout{%
6769 \Hy@FirstPageHook
6770 \global\let\Hy@FirstPageHook\ltx@empty
6771 }%
6772 }{%
6773 \AtBeginShipoutFirst{%
6774 \Hy@FirstPageHook
6775 }%
6776 }
6777 \g@addto@macro\Hy@FirstPageHook{%
6778 \PDF@FinishDoc
6779 \global\let\PDF@FinishDoc\ltx@empty
6780 }

```

28.1 PDF /PageLabels

Internal macros of this module are marked with \HyPL@.

```

6781 \ifHy@pdfpagelabels
6782 \begingroup\expandafter\expandafter\expandafter\endgroup
6783 \expandafter\ifx\csname thepage\endcsname\relax
6784 \Hy@pdfpagelabelsfalse
6785 \Hy@WarningNoLine{%
6786 Option 'pdfpagelabels' is turned off\MessageBreak
6787 because \string\thepage\space is undefined%
6788 }%
6789 \csname fi\endcsname
6790 \csname iffalse\expandafter\endcsname
6791 \fi

```

\thispdfpagelabel The command \thispdfpagelabel allows to label a special page without the redefinition of \thepage for the page.

```

6792 \def\thispdfpagelabel#1{%
6793 \gdef\HyPL@thisLabel{#1}%
6794 }%
6795 \global\let\HyPL@thisLabel\relax

```

\HyPL@Labels The page labels are collected in \HyPL@Labels and set at the end of the document.

```

6796 \let\HyPL@Labels\ltx@empty

```

\Hy@abspage We have to know the the absolute page number and introduce a new counter for that.

```

6797 \newcount\Hy@abspage
6798 \Hy@abspage=0 %

```

For comparisons with the values of the previous page, some variables are needed:

```
6799 \def\HyPL@LastType{init}%
6800 \def\HyPL@LastNumber{0}%
6801 \let\HyPL@LastPrefix\ltx@empty
```

Definitions for the PDF names of the L^AT_EX pendants.

```
6802 \def\HyPL@arabic{D}%
6803 \def\HyPL@Roman{R}%
6804 \def\HyPL@roman{r}%
6805 \def\HyPL@Alph{A}%
6806 \def\HyPL@alph{a}%

6807 \let\HyPL@SlidesSetPage\ltx@empty
6808 \ltx@ifclassloaded{slides}{%
6809   \def\HyPL@SlidesSetPage{%
6810     \advance\c@page\ltx@one
6811     \ifnum\value{page}>\ltx@one
6812       \protected@edef\HyPL@SlidesOptionalPage{%
6813         \Hy@SlidesFormatOptionalPage{\thepage}%
6814       }%
6815     \else
6816       \let\HyPL@SlidesOptionalPage\ltx@empty
6817     \fi
6818     \advance\c@page-\ltx@one
6819     \def\HyPL@page{%
6820       \csname the\Hy@SlidesPage\endcsname
6821       \HyPL@SlidesOptionalPage
6822     }%
6823   }%
6824 }{}%
```

`\HyPL@EveryPage` If a page is shipout and the page number is known, `\HyPL@EveryPage` has to be called. It stores the current page label.

```
6825 \def\HyPL@EveryPage{%
6826   \begingroup
6827   \ifx\HyPL@thisLabel\relax
6828     \let\HyPL@page\thepage
6829     \HyPL@SlidesSetPage
6830   \else
6831     \let\HyPL@page\HyPL@thisLabel
6832     \global\let\HyPL@thisLabel\relax
6833   \fi
6834   \let\HyPL@Type\relax
6835   \ifnum\c@page>0 %
6836     \ifx\HyPL@SlidesSetPage\ltx@empty
6837       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6838     \fi
6839   \fi
6840   \let\Hy@temp Y%
6841   \ifx\HyPL@Type\HyPL@LastType
```

```

6842 \else
6843 \let\Hy@temp N%
6844 \fi
6845 \ifx\HyPL@Type\relax
6846 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6847 \else
6848 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6849 \fi
6850 \ifx\HyPL@Prefix\HyPL@LastPrefix
6851 \else
6852 \let\Hy@temp N%
6853 \fi
6854 \if Y\Hy@temp
6855 \advance\c@page by -1 %
6856 \ifnum\HyPL@LastNumber=\the\c@page\relax
6857 \else
6858 \let\Hy@temp N%
6859 \fi
6860 \Hy@StepCount\c@page
6861 \fi
6862 \if N\Hy@temp
6863 \ifx\HyPL@Type\relax
6864 \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6865 \else
6866 \HyPL@storePageLabel{%
6867 \ifx\HyPL@Prefix\@empty
6868 \else
6869 /P(\HyPL@Prefix)%
6870 \fi
6871 /S/\csname HyPL\HyPL@Type\endcsname
6872 \ifnum\the\c@page=1 %
6873 \else
6874 \space/St \the\c@page
6875 \fi
6876 }%
6877 \fi
6878 \fi
6879 \xdef\HyPL@LastNumber{\the\c@page}%
6880 \global\let\HyPL@LastType\HyPL@Type
6881 \global\let\HyPL@LastPrefix\HyPL@Prefix
6882 \endgroup
6883 \Hy@GlobalStepCount\Hy@abspage
6884 }%

```

`\HyPL@CheckThePage` Macro `\HyPL@CheckThePage` calls `\HyPL@@CheckThePage` that does the job.

```

6885 \def\HyPL@CheckThePage#1\@nil{%
6886 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6887 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , e. g.: `\csname @ara-`

bic\endcsname\c@page. In the current implemenation the check fails, if there is another \csname before.

The second check tries to detect \arabic{page} at the end of the definition text of \thepage.

```

6888 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6889 \def\Hy@tempa{#4}%
6890 \def\Hy@tempb{\csname\endcsname\c@page}%
6891 \ifx\Hy@tempa\Hy@tempb
6892 \expandafter\ifx\csname HyPL#3\endcsname\relax
6893 \else
6894 \def\HyPL@Type{#3}%
6895 \def\HyPL@Prefix{#2}%
6896 \fi
6897 \else
6898 \begingroup
6899 \let\Hy@next\endgroup
6900 \let\HyPL@found\@undefined
6901 \def\arabic{\HyPL@Format{arabic}}%
6902 \def\Roman{\HyPL@Format{Roman}}%
6903 \def\roman{\HyPL@Format{roman}}%
6904 \def\Alph{\HyPL@Format{Alph}}%
6905 \def\alph{\HyPL@Format{alph}}%
6906 \protected@edef\Hy@temp{#1}%
6907 \ifx\HyPL@found\relax
6908 \toks@{\expandafter{\Hy@temp}}%
6909 \edef\Hy@next{\endgroup
6910 \noexpand\HyPL@@@CheckThePage\the\toks@
6911 \noexpand\HyPL@found\relax\noexpand\@nil
6912 }%
6913 \fi
6914 \Hy@next
6915 \fi
6916 }%
```

\HyPL@Format The help macro \HyPL@Format is executed while a \protected@edef in the second check method of \HyPL@@CheckPage. The first occurrences of, for example, \arabic{page} is marked by \HyPL@found that is also defined by \csname.

```

6917 \def\HyPL@Format#1#2{%
6918 \ifx\HyPL@found\@undefined
6919 \expandafter\ifx\csname c@#2\endcsname\c@page
6920 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6921 \else
6922 \expandafter\noexpand\csname#1\endcsname{#2}%
6923 \fi
6924 \else
6925 \expandafter\noexpand\csname#1\endcsname{#2}%
6926 \fi
6927 }%
```

`\HyPL@@@CheckThePage` If the second check method is successful, `\HyPL@@@CheckThePage` scans the result of `\HyPL@Format` and stores the found values.

```
6928 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6929   \def\Hy@tempa{#3}%
6930   \def\Hy@tempb{\HyPL@found\relax}%
6931   \ifx\Hy@tempa\Hy@tempb
6932     \def\HyPL@Type{#2}%
6933     \def\HyPL@Prefix{#1}%
6934   \fi
6935 }%
```

`\HyPL@StorePageLabel` Dummy for drivers that does not support `/PageLabel`.

```
6936 \providecommand*\HyPL@StorePageLabel}[1]{}%
```

`\HyPL@Useless` The `/PageLabels` entry does not make sense, if the absolute page numbers and the page labels are the same. Then `\HyPL@Labels` has the meaning of `\HyPL@Useless`.

```
6937 \def\HyPL@Useless{0<</S/D>>}%
6938 \@onelevel@sanitize\HyPL@Useless
```

`\HyPL@SetPageLabels` The page labels are written to the PDF catalogue. The command `\Hy@PutCatalog` is defined in the driver files.

```
6939 \def\HyPL@SetPageLabels{%
6940   \@onelevel@sanitize\HyPL@Labels
6941   \ifx\HyPL@Labels\@empty
6942   \else
6943     \ifx\HyPL@Labels\HyPL@Useless
6944     \else
6945       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6946     \fi
6947   \fi
6948 }%
```

```
6949 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6950 \fi
```

Option ‘pdfpagelabels’ has been used and is now disabled.

```
6951 \Hy@DisableOption{pdfpagelabels}
6952 </package>
```

28.1.1 pdfTeX and VTeX

Because of pdfTeX’s `\pdfcatalog` command the `/PageLabels` entry can set at end of document in the first run.

`\Hy@PutCatalog`

```
6953 <*pdfTeX>
6954 \pdf@ifdraftmode{%
```



```

6955 \let\Hy@PutCatalog\ltx@gobble
6956 }{%
6957 \let\Hy@PutCatalog\pdfcatalog
6958 }
6959 </pdfTeX>

```

The code for VTeX is more complicate, because it does not allow the direct access to the /Catalog object. The command scans its argument and looks for a /PageLabels entry.

VTeX 6.59g is the first version, that implements `\special{!pdfpagelabels...}`. For this version `\VTeXversion` reports 660.

```

6960 <*vTeX>
6961 \providecommand*{\XR@ext}{pdf}
6962 \edef\Hy@VTeXversion{%
6963   \ifx\VTeXversion\@undefined
6964     \z@
6965   \else
6966     \ifx\VTeXversion\relax
6967       \z@
6968     \else
6969       \VTeXversion
6970     \fi
6971   \fi
6972 }
6973 \begingroup
6974   \ifnum\Hy@VTeXversion<660 %
6975     \gdef\Hy@PutCatalog#1{%
6976       \Hy@WarningNoLine{%
6977         VTeX 6.59g or above required for pdfpagelabels%
6978       }%
6979     }%
6980   \else
6981     \gdef\Hy@PutCatalog#1{%
6982       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6983     }%
6984     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6985       \ifx\#2\%
6986         \else
6987           \immediate\special{!pdfpagelabels #2}%
6988         \fi
6989       }%
6990     \fi
6991 \endgroup
6992 </vTeX>

6993 <*pdfTeX | vTeX>

```

`\HyPL@StorePageLabel` This macro adds the entry #1 to `\HyPL@Labels`.

```

6994 \ifHy@pdfpagelabels
6995   \def\HyPL@StorePageLabel#1{%

```

```

6996 \toks@\expandafter{\HyPL@Labels}%
6997 \xdef\HyPL@Labels{%
6998   \the\toks@
6999   \the\Hy@abspage<<#1>>%
7000 }%
7001 }%

```

Package atveryend is used to get behind the final `\clearpage` and to avoid a `\clearpage` in `\AtEndDocument`. Then the PDF catalog entry for `\PageLabels` is set.

```

7002 \RequirePackage{atveryend}[2009/12/07]%
7003 \AtVeryEndDocument{%
7004   \HyPL@SetPageLabels
7005 }%

7006 \fi
7007 </pdfTeX | vtex>

```

28.1.2 xetex

```

7008 <*xetex>
7009 \HyPsd@LoadUnicode
7010 \Hy@unicodetrue
7011 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
7012 \else
7013   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
7014 \fi
7015 \HyPsd@LoadStringEncoding
7016 \define@key{Hyp}{unicode}[true]{%
7017   \Hy@boolkey{unicode}{#1}%
7018   \ifHy@unicode
7019   \else
7020     \Hy@Warning{%
7021       XeTeX driver only supports ‘unicode=true’. Ignoring\MessageBreak
7022       option setting ‘unicode=false’%
7023     }%
7024     \Hy@unicodetrue
7025   \fi
7026 }
7027 \define@key{Hyp}{pdfencoding}{%
7028   \edef\HyPsd@temp{#1}%
7029   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
7030     \let\HyPsd@pdfencoding\HyPsd@temp
7031   \else
7032     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
7033       \let\HyPsd@pdfencoding\HyPsd@temp
7034     \else
7035       \Hy@Warning{%
7036         XeTeX driver only supports\MessageBreak
7037         ‘pdfencoding=unicode|auto’. Ignoring option\MessageBreak

```

```

7038     setting 'pdfencoding=\HyPsd@temp'%
7039   }%
7040   \fi
7041 \fi
7042 }
7043 \let\HyXeTeX@CheckUnicode\relax
7044 \</xetex>

```

28.1.3 pdfmarkbase, dvipdfm, xetex

```

7045 \<*pdfmarkbase>
7046 \begingroup
7047   \@ifundefined{headerps@out}{-}{%
7048     \toks@\expandafter{\Hy@FirstPageHook}%
7049     \xdef\Hy@FirstPageHook{%
7050       \noexpand\headerps@out{%
7051         systemdict /pdfmark known%
7052         {%
7053           userdict /?pdfmark systemdict /exec get put%
7054         }{%
7055           userdict /?pdfmark systemdict /pop get put %
7056           userdict /pdfmark systemdict /cleartomark get put%
7057         }%
7058         ifelse%
7059       }%
7060     \the\toks@
7061   }%
7062 }%
7063 \endgroup
7064 \</pdfmarkbase>

```

\Hy@PutCatalog

```

7065 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
7066 \<*pdfmarkbase>
7067 \def\Hy@PutCatalog#1{%
7068   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
7069 }
7070 \</pdfmarkbase>

7071 \<*pdfmarkbase | dvipdfm | xetex>
7072 \ifHy@pdfpagelabels

```

\HyPL@StorePageLabel This macro writes a string to the .aux file.

```

7073 \def\HyPL@StorePageLabel#1{%
7074   \if@filesw
7075     \begingroup
7076       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
7077       \immediate\write\@mainaux{%
7078         \string\HyPL@Entry{\Hy@tempa}%
7079       }%
7080     \endgroup

```

```

7081 \fi
7082 }%

```

Write a dummy definition of `\HyPL@Entry` for the case, that the next run is done without hyperref. A marker for the rerun warning is set and the `/PageLabels` is written.

```

7083 \Hy@AtBeginDocument{%
7084   \if@files
7085     \immediate\write\@mainaux{%
7086       \string\providecommand\string*\string\HyPL@Entry[1]{}%
7087     }%
7088   \fi
7089   \ifx\HyPL@Labels\@empty
7090     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
7091   \else
7092     \HyPL@SetPageLabels
7093   \fi
7094   \let\HyPL@Entry\@gobble
7095 }%

```

`\HyPL@Entry`

```

7096 \def\HyPL@Entry#1{%
7097   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
7098     \HyPL@Labels
7099     #1%
7100   }%
7101 }%

7102 \fi
7103 </pdfmarkbase | dvipdfm | xetex>
7104 <*package>

7105 \ifx\MaybeStopEarly\relax
7106 \else
7107   \Hy@stoppedearlytrue
7108   \expandafter\MaybeStopEarly
7109 \fi
7110 \Hy@stoppedearlyfalse

```

29 Automated L^AT_EX hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>` be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively,

the ‘naturalnames’ option uses whatever L^AT_EX provides, which may be useable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

All the shenanigans is to make sure section numbers etc are always arabic, separated by dots. Who knows how people will set up \@currentlabel? If they put spaces in, or brackets (quite legal) then the hypertext processors will get upset.

But this is flaky, and open to abuse. Styles like subeqn will mess it up, for starters. Appendices are an issue, too. We just hope to cover most situations. We can at least cope with the standard sectioning structure, allowing for \part and \chapter.

Start with a fallback for equations

```

7111 \def\Hy@CounterExists#1{%
7112   \begingroup\expandafter\expandafter\expandafter\endgroup
7113   \expandafter\ifx\csname c@#1\endcsname\relax
7114     \expandafter\@gobble
7115   \else
7116     \begingroup\expandafter\expandafter\expandafter\endgroup
7117     \expandafter\ifx\csname the#1\endcsname\relax
7118       \expandafter\expandafter\expandafter\@gobble
7119     \else
7120       \expandafter\expandafter\expandafter\@firstofone
7121     \fi
7122   \fi
7123 }
7124 \Hy@CounterExists{section}{%
7125   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
7126 }
7127 \Hy@CounterExists{part}{%
7128   \providecommand\theHpart{\arabic{part}}}%
7129 }
7130 \ltx@ifundefined{thechapter}{%
7131   \providecommand\theHsection   {\arabic{section}}}%
7132   \providecommand\theHfigure    {\arabic{figure}}}%
7133   \providecommand\theHtable     {\arabic{table}}}%
7134 }{%
7135   \providecommand\theHchapter   {\arabic{chapter}}}%
7136   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
7137   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
7138   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
7139 }
7140 \providecommand\theHsubsection  {\theHsection.\arabic{subsection}}
7141 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
7142 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
7143 \providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
7144 \providecommand\theHtheorem     {\theHsection.\arabic{theorem}}
7145 \providecommand\theHthm         {\theHsection.\arabic{thm}}

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But \item occurs inside \trivlist, so check if its a

real `\item` before incrementing counters.

```

7146 \let\H@item\item
7147 \newcounter{Item}
7148 \def\theHItem{\arabic{Item}}
7149 \def\item{%
7150   \@hyper@itemfalse
7151   \if@nmbrlist\@hyper@itemtrue\fi
7152   \H@item
7153 }

7154 \providecommand\theHenumi   {\theHItem}
7155 \providecommand\theHenumii  {\theHItem}
7156 \providecommand\theHenumiii {\theHItem}
7157 \providecommand\theHenumiv  {\theHItem}
7158 \providecommand\theHHfootnote {\arabic{Hfootnote}}
7159 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
7160 \@ifundefined{theHHmpfootnote}{%
7161   \let\theHHmpfootnote\theHHfootnote
7162 }{}

```

Tanmoy asked for this default handling of undefined `\theH<name>` situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like `\arabic{name}`. We take the latter course, slightly worriedly.

```

7163 \let\H@refstepcounter\refstepcounter
7164 \edef\name@of@eq{equation}%
7165 \edef\name@of@slide{slide}%

```

We do not want the handler for `\refstepcounter` to cut in during the processing of `\item` (we handle that separately), so we provide a bypass conditional.

```

7166 \newif\if@hyper@item
7167 \newif\if@skiphyperref
7168 \@hyper@itemfalse
7169 \@skiphyperreffalse
7170 \def\refstepcounter#1{%
7171   \ifHy@pdfstring
7172   \else
7173     \H@refstepcounter{#1}%
7174     \edef\This@name{#1}%
7175     \ifx\This@name\name@of@slide
7176     \else
7177       \if@skiphyperref
7178       \else
7179         \if@hyper@item
7180           \stepcounter{Item}%
7181           \hyper@refstepcounter{Item}%
7182         \@hyper@itemfalse
7183       \else
7184         \hyper@refstepcounter{#1}%
7185       \fi

```

```

7186 \fi
7187 \fi
7188 \fi
7189 }
7190 \let\Hy@saved@refstepcounter\refstepcounter

```

AMSTeX processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

7191 \ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

7192 \def\hyper@refstepcounter#1{%
7193 \edef\This@name{#1}%
7194 \ifx\This@name\name@of@eq
7195 \ifundefined{theHequation}{%
7196 \make@stripped@name{\theequation}%
7197 \let\theHequation\newname
7198 }{}%
7199 \fi
7200 \HyCnt@ProvideTheHCounter{#1}%
7201 \hyper@makecurrent{#1}%
7202 \ifmeasuring@
7203 \else
7204 \Hy@raisedlink{%
7205 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7206 }%
7207 \fi
7208 }

```

`\Hy@ProvideTheHCounter` `\theH<counter>` is not set for counters that are defined before ‘hyperref’ is loaded. In `\cl@ckpt`, the clear counter list of the artificial counter `@ckpt`, L^AT_EX remembers the defined counters (needed for `\include`). We check the clear counter lists, whether our counter is present. If we found it, then we add the parent counter value to `\theH<counter>`. The `\@elt` list is used in sanitized form for the comparison, because the list might contain other stuff than `\@elts`. Also it simplifies the implementation, because L^AT_EX’, substring search `\in@` can be used.

```

7209 \def\HyCnt@ProvideTheHCounter#1{%
7210 \ifundefined{theH#1}{%
7211 \expandafter\def\csname theH#1\endcsname{}%
7212 \def\Hy@temp{\@elt{#1}}%
7213 \ltx@onelevel@sanitize\Hy@temp
7214 \let\HyOrg@elt\@elt
7215 \edef\@elt{%
7216 \noexpand\HyCnt@LookForParentCounter
7217 \expandafter\noexpand\csname theH#1\endcsname
7218 }%
7219 \cl@ckpt
7220 \let\@elt\HyOrg@elt

```

```

7221 \expandafter
7222 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7223 \expandafter{%
7224   \expandafter\@arabic\csname c@#1\endcsname
7225 }%
7226 }{}%
7227 }

```

\Hy@LookForParentCounter

```

7228 \def\HyCnt@LookForParentCounter#1#2{%
7229   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7230   \ltx@ifundefined{cl@#2}{%
7231   }{%
7232     \ltx@onelevel@sanitize\Hy@temp@A
7233     \edef\Hy@temp@A{%
7234       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7235     }\Hy@temp@A
7236     \ifin@
7237       \ltx@ifundefined{theH#2}{%
7238         \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7239         \expandafter{%
7240           \expandafter\@arabic\csname c@#2\endcsname.%
7241         }%
7242       }{%
7243         \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7244         \expandafter{%
7245           \csname theH#2\endcsname.%
7246         }%
7247       }%
7248     \fi
7249   }%
7250 }

```

After \appendix “chapter” (or “section” for classes without chapter) should be replaced by “appendix” to get \autoref work. Macro \Hy@chapapp contains the current valid name like \@chapapp, which cannot be used, because this string depends on the current language.

The “french” package defines counter \thechapter by \newcounterchapter, if \@ifundefinedchapter.

```

7251 \begingroup\expandafter\expandafter\expandafter\endgroup
7252 \expandafter\ifx\csname chapter\endcsname\relax
7253   \def\Hy@chapterstring{section}%
7254 \else
7255   \def\Hy@chapterstring{chapter}%
7256 \fi
7257 \def\Hy@appendixstring{appendix}
7258 \def\Hy@chapapp{\Hy@chapterstring}
7259 \ltx@ifundefined{appendix}{%
7260 }{%

```



```

7261 \let\HyOrg@appendix\appendix
7262 \def\Hy@AlphNoErr#1{%
7263   \ifnum\value{#1}>26 %
7264     Alph\number\value{#1}%
7265   \else
7266     \ifnum\value{#1}<1 %
7267       Alph\number\value{#1}%
7268     \else
7269       \Alph{#1}%
7270     \fi
7271   \fi
7272 }%
7273 \def\appendix{%
7274   \ltx@ifundefined{chapter}{%
7275     \gdef\theHsection{\Hy@AlphNoErr{section}}%
7276   }{%
7277     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7278   }%
7279   \xdef\Hy@chapapp{\Hy@appendixstring}%
7280   \HyOrg@appendix
7281 }%
7282 }

```

\Hy@Test@alph

```

7283 \def\Hy@Test@alph#1{%
7284   \ifcase#1\or
7285     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7286     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7287     u\or v\or w\or x\or y\or z%
7288   \else
7289     \@ctrerr
7290   \fi
7291 }

```

\Hy@Test@Alph

```

7292 \def\Hy@Test@Alph#1{%
7293   \ifcase#1\or
7294     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7295     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7296     U\or V\or W\or X\or Y\or Z%
7297   \else
7298     \@ctrerr
7299   \fi
7300 }

```

\hyper@makecurrent Because of Babel mucking around, nullify \textlatin when making names. And \@number because of babel's lrbabel.def.

```

7301 \def\hyper@makecurrent#1{%
7302   \begingroup

```

```

7303 \Hy@safe@activetrue
7304 \edef\Hy@param{#1}%
7305 \ifx\Hy@param\Hy@chapterstring
7306 \let\Hy@param\Hy@chapapp
7307 \fi
7308 \ifHy@hypertextnames
7309 \let\@number\@firstofone
7310 \def\@fnsymbol##1{\fnsymbol\number##1}%
7311 \def\@arabic##1{\number##1}%
7312 \ifx\@alph\Hy@Test@alph
7313 \else
7314 \def\@alph{alph\number}%
7315 \fi
7316 \ifx\@Alph\Hy@Test@Alph
7317 \else
7318 \def\@Alph{Alph\number}%
7319 \fi
7320 \ifHy@naturalnames
7321 \let\textlatin\@firstofone
7322 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7323 \else
7324 \xdef\HyperGlobalCurrentHref{%
7325 \csname
7326 the%
7327 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7328 #1%
7329 \endcsname
7330 }%
7331 \fi
7332 \xdef\HyperGlobalCurrentHref{%
7333 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7334 }%
7335 \else
7336 \Hy@GlobalStepCount\Hy@linkcounter
7337 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7338 \fi
7339 \endgroup
7340 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7341 \ifHy@localanchorname
7342 \let\@currentHref\HyperLocalCurrentHref
7343 \else
7344 \global\let\@currentHref\HyperGlobalCurrentHref
7345 \fi
7346 }

```

\Hy@MakeCurrentHref

```

7347 \def\Hy@MakeCurrentHref#1{%
7348 \edef\HyperLocalCurrentHref{#1}%
7349 \@onelevel@sanitize\HyperLocalCurrentHref
7350 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref

```

```

7351 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7352 \ifHy@localanchorname
7353   \let\@currentHref\HyperLocalCurrentHref
7354 \else
7355   \global\let\@currentHref\HyperGlobalCurrentHref
7356 \fi
7357 }

```

`\Hy@MakeCurrentHrefAuto`

```

7358 \def\Hy@MakeCurrentHrefAuto#1{%
7359   \Hy@GlobalStepCount\Hy@linkcounter
7360   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7361 }

```

`\@currentHlabel` `\@currentHlabel` is only defined for compatibility with package ‘hypdvips’.

```

7362 \def\@currentHlabel{\@currentHref}

7363 \@ifpackageloaded{fancyvrb}{%
7364   \@ifpackagelater{fancyvrb}{1998/05/20}{}%
7365   \def\FV@StepLineNo{%
7366     \FV@SetLineNo
7367     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7368     \FV@StepLineNo
7369   }%
7370 }%
7371 }{}

```

30 Package lastpage support

Package `lastpage` directly writes the `\newlabel` command to the aux file. Because package `hyperref` requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package `lastpage` is loaded after package `hyperref`. The same algorithm (options `hypertextnames` and `plainpages`) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 39). The link will not work if option `pageanchor` is set to false.

`\lastpage@putlabel`

```

7372 \Hy@AtBeginDocument{%
7373   \@ifclassloaded{revtex4}{%
7374     \@namedef{ver@lastpage.sty}{1994/06/25}%
7375   }{}%
7376   \@ifpackageloaded{lastpage}{%
7377     \ifHy@pageanchor
7378     \else
7379       \Hy@WarningNoLine{%
7380         The \string\pageref{LastPage} link doesn't work\MessageBreak
7381         with disabled option 'pageanchor'%

```

```

7382     }%
7383 \fi
7384 \def\lastpage@putlabel{%
7385   \addtocounter{page}{-1}%
7386   \if@filesw
7387     \begingroup
7388     \let\@number\@firstofone
7389     \ifHy@pageanchor
7390       \ifHy@hypertextnames
7391         \ifHy@plainpages
7392           \def\Hy@temp{\arabic{page}}%
7393         \else
7394           \Hy@unicodefalse
7395           \pdfstringdef\Hy@temp{\thepage}%
7396         \fi
7397       \else
7398         \def\Hy@temp{\the\Hy@pagecounter}%
7399       \fi
7400     \fi
7401     \immediate\write\@auxout{%
7402       \string\newlabel
7403       {LastPage}{\the\thepage}{\thepage}%
7404       \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7405   }%
7406 \endgroup
7407 \fi
7408 \addtocounter{page}{1}%
7409 }%
7410 \@ifclassloaded{revtex4}{%
7411   \begingroup
7412   \toks@\expandafter{\lastpage@putlabel}%
7413   \edef\x{\endgroup
7414     \def\noexpand\lastpage@putlabel{%
7415       \noexpand\stepcounter{page}%
7416       \the\toks@
7417       \noexpand\addtocounter{page}\noexpand\m@ne
7418     }%
7419   }%
7420   \x
7421   }{}%
7422 }{}%
7423 }
7424 \</package>
7425 \< *check>
7426 \checkpackage{lastpage}[1994/06/25]
7427 \checkcommand\def\lastpage@putlabel{%
7428   \addtocounter{page}{-1}%
7429   \immediate\write\@auxout{%
7430     \string\newlabel{LastPage}{\the\thepage}{\thepage}%
7431   }%

```

```

7432 \addtocounter{page}{1}%
7433 }
7434 </check>
7435 <*package>

```

31 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```

7436 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
7437 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

32 Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: jbezos@arrakis.es).

Package titlesec support:

```

7438 \@ifpackageloaded{titlesec}{%
7439 \def\ttl@Hy@steplink#1{%
7440 \Hy@MakeCurrentHrefAuto{#1*}%
7441 \edef\ttl@Hy@saveanchor{%
7442 \noexpand\Hy@raisedlink{%
7443 \noexpand\hyper@anchorstart{\@currentHref}%
7444 \noexpand\hyper@anchorend
7445 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7446 \noexpand\ttl@Hy@PatchSaveWrite
7447 }%
7448 }%
7449 }%
7450 \def\ttl@Hy@PatchSaveWrite{%
7451 \begingroup
7452 \toks@{\expandafter{\ttl@savewrite}%
7453 \edef\x{\endgroup
7454 \def\noexpand\ttl@savewrite{%
7455 \let\noexpand\@currentHref
7456 \noexpand\ttl@Hy@SavedCurrentHref
7457 \the\toks@
7458 }%
7459 }%
7460 \x
7461 }%
7462 \def\ttl@Hy@refstepcounter#1{%
7463 \let\ttl@b\Hy@raisedlink
7464 \def\Hy@raisedlink##1{%
7465 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7466 }%
7467 \refstepcounter{#1}%

```

```

7468 \let\Hy@raisedlink\ttl@b
7469 }%
7470 {}

```

Package titletoc support:

```

7471 \@ifpackageloaded{titletoc}{%
7472 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7473 }{}

```

33 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net).

```

7474 \def\Hy@varioref@undefined{??}{??}{-}{-}
7475 \@ifpackageloaded{varioref}{%
7476 \def\vref@pagenum#1#2{%
7477 \ifundefined{r@#2}{%
7478 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7479 }{}%
7480 \edef#1{\getpagerefnumber{#2}}%
7481 }%
7482 }{}

```

Package varioref redefines `\refstepcounter`, thus it needs fixing, if the package is loaded *after* `hyperref`.

```

7483 \def\Hy@varioref@refstepcounter#1{%
7484 \stepcounter{#1}%
7485 \protected@edef\@currentlabel{%
7486 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7487 }%
7488 }
7489 \AtBeginDocument{%
7490 \ifx\refstepcounter\Hy@varioref@refstepcounter
7491 \let\H@refstepcounter\refstepcounter
7492 \let\refstepcounter\Hy@saved@refstepcounter
7493 \fi
7494 }

```

34 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by `hyperref`'s `\refstepcounter` and the anchor setting is moved after `\vskip\LTpre`.

Patch of `\LT@array`: replace `\refstepcounter` by the original `\H@refstepcounter` without anchor generation

```

7495 \@ifpackageloaded{longtable}{%
7496 \begingroup

```

```

7497 \def\y{\LT@array}%
7498 \@ifundefined{scr@LT@array}{%
7499   \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7500 }{\def\y{\scr@LT@array}}%
7501 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7502   \expandafter\endgroup
7503   \expandafter\def\y[##1]##2{%
7504     \H@refstepcounter{#1}%
7505     \hyper@makecurrent{table}%
7506     \let\Hy@LT@currentHref\@currentHref
7507     #2\@sharp###4%
7508   }%
7509 }%
7510 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7511 \begingroup
7512 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7513   \endgroup
7514   \def\LT@start{%
7515     #1%
7516     \ifvoid\LT@foot#2\fi
7517     \let\@currentHref\Hy@LT@currentHref
7518     \Hy@raisedlink{%
7519       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7520     }%
7521     #3%
7522   }%
7523 }%
7524 \expandafter\x\LT@start\@nil
7525 }{}

```

35 Equations

We want to make the whole equation a target anchor. Overload `equation`, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 42). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

7526 \let\new@refstepcounter\refstepcounter
7527 \let\H@equation\equation
7528 \let\H@endequation\endequation
7529 \@ifpackageloaded{amsmath}{%
7530   \long\def\Hy@temp{%
7531     \incr@eqnum
7532     \mathdisplay@push
7533     \st@rredfalse \global\@eqnswtrue
7534     \mathdisplay{equation}%

```

```

7535 }%
7536 \ifx\Hy@temp\equation
7537 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7538 \csname iftrue\endcsname
7539 \else
7540 \long\def\equation{%
7541 \mathdisplay@push
7542 \st@rredfalse \global\@eqnswtrue
7543 \mathdisplay{equation}%
7544 \incr@eqnum
7545 }%
7546 \fi
7547 \fi
7548 }{%
7549 \def\equation{%
7550 \let\refstepcounter\H@refstepcounter
7551 \H@equation
7552 \@ifundefined{theHequation}{%
7553 \make@stripped@name{\theequation}%
7554 \let\theHequation\newname
7555 }{}%
7556 \hyper@makecurrent{equation}%

```

`\mathopen` is needed in case the equation starts with an unary minus, for example.

```

7557 \mathopen{%
7558 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7559 }%
7560 \let\refstepcounter\new@refstepcounter
7561 }%
7562 \def\endequation{%
7563 \ifx\Hy@raisedlink\lt@empty
7564 \hyper@anchorend
7565 \else
7566 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7567 \fi
7568 \H@endequation
7569 }%
7570 }

```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an `eqnarray` where *all* the lines end with `\notag`, so there is no suitable anchor at all. In this case, pass by on the other side.

```

7571 \newif\if@eqnstar
7572 \@eqnstarfalse
7573 \let\H@eqnarray\eqnarray
7574 \let\H@endeqnarray\endeqnarray
7575 \def\eqnarray{%
7576 \let\Hy@reserved@a\relax

```



```

7577 \def\@currentHref{}%
7578 \H@eqnarray
7579 \if@eqnstar
7580 \else
7581 \ifx\\\@currentHref\\%
7582 \else
7583 \@ifundefined{theHequation}{%
7584 \make@stripped@name{\theequation}%
7585 \let\theHequation\newname
7586 }{}%
7587 \hyper@makecurrent{equation}%
7588 \mathopen{%
7589 \Hy@raisedlink{%
7590 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7591 }%
7592 }%
7593 \fi
7594 \fi
7595 }
7596 \def\endeqnarray{%
7597 \H@endeqnarray
7598 }

```

This is quite heavy-handed, but it works for now. If its an `eqnarray*` we need to disable the hyperref actions. There may well be a cleaner way to trap this. Bill Moss found this.

```

7599 \@namedef{eqnarray*}{%
7600 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7601 }
7602 \@namedef{endeqnarray*}{%
7603 \nonumber\endeqnarray\@eqnstarfalse
7604 }

```

Then again, we have the *subeqnarray* package. Tanmoy provided some code for this:

```

7605 \ltx@ifundefined{subeqnarray}{}{}%
7606 \let\H@subeqnarray\subeqnarray
7607 \let\H@endsubeqnarray\endsubeqnarray
7608 \def\subeqnarray{%
7609 \let\Hy@reserved@a\relax
7610 \H@subeqnarray
7611 \@ifundefined{theHequation}{%
7612 \make@stripped@name{\theequation}%
7613 \let\theHequation\newname
7614 }{}%
7615 \hyper@makecurrent{equation}%
7616 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7617 }%
7618 \def\endsubeqnarray{%
7619 \H@endsubeqnarray

```

```

7620 }%
7621 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7622 }

```

The aim of this macro is to produce a sanitized version of its argument, to make it a safe label.

```

7623 \def\make@stripped@name#1{%
7624 \begingroup
7625 \escapechar\m@ne
7626 \global\let\newname\@empty
7627 \protected@edef\Hy@tempa{#1}%
7628 \edef\@tempb{%
7629 \noexpand\@tfor\noexpand\Hy@tempa:=%
7630 \expandafter\strip@prefix\meaning\Hy@tempa
7631 }%
7632 \@tempb\do{%
7633 \if{\Hy@tempa\else
7634 \if}\Hy@tempa\else
7635 \xdef\newname{\newname\Hy@tempa}%
7636 \fi
7637 \fi
7638 }%
7639 \endgroup
7640 }

```

Support for amsmath's subequations:

```

7641 \begingroup\expandafter\expandafter\expandafter\endgroup
7642 \expandafter\ifx\cename subequations\endcsname\relax
7643 \else
7644 \let\HyOrg@subequations\subequations
7645 \def\subequations{%
7646 \stepcounter{equation}%
7647 \protected@edef\theHparentequation{%
7648 \@ifundefined{theHequation}\theequation\theHequation
7649 }%
7650 \addtocounter{equation}{-1}%
7651 \HyOrg@subequations
7652 \def\theHequation{\theHparentequation\alph{equation}}%
7653 \ignorespaces
7654 }%
7655 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7656 \@ifpackageloaded{amsthm}{%

```

Class `amsbook` uses a different definition of `\@thm`, where two lines are added (thanks to Dan Luecking for his analysis):

```

\let\thm@indent\indent % indent
\thm@headfont{\scshape}% heading font small caps
7657 \def\Hy@temp#1#2#3{%

```

```

7658 \ifhmode\unskip\unskip\par\fi
7659 \normalfont
7660 \trivlist
7661 \let\thmheadnl\relax
7662 \let\thm@swap\@gobble
7663 \let\thm@indent\indent % indent
7664 \thm@headfont{\scshape}% heading font small caps
7665 \thm@notefont{\fontseries\mddefault\upshape}%
7666 \thm@headpunct{.}% add period after heading
7667 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7668 \thm@space@setup
7669 #1% style overrides
7670 \@topsep \thm@preskip % used by thm head
7671 \@topsepadd \thm@postskip % used by \@endparenv
7672 \def\@tempa{#2}\ifx\@empty\@tempa
7673 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7674 \else
7675 \refstepcounter{#2}%
7676 \def\@tempa{%
7677 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7678 }%
7679 \fi
7680 \@tempa
7681 }%
7682 \ifx\Hy@temp\@thm
7683 \def\@thm#1#2#3{%
7684 \ifhmode
7685 \unskip\unskip\par
7686 \fi
7687 \normalfont
7688 \trivlist
7689 \let\thmheadnl\relax
7690 \let\thm@swap\@gobble
7691 \let\thm@indent\indent % indent
7692 \thm@headfont{\scshape}% heading font small caps
7693 \thm@notefont{\fontseries\mddefault\upshape}%
7694 \thm@headpunct{.}% add period after heading
7695 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7696 \thm@space@setup
7697 #1% style overrides
7698 \@topsep \thm@preskip % used by thm head
7699 \@topsepadd \thm@postskip % used by \@endparenv
7700 \def\@th@counter{#2}%
7701 \ifx\@empty\@th@counter
7702 \def\@tempa{%
7703 \@oparg{\@begintheorem{#3}{}}}%
7704 }%
7705 \else
7706 \H@refstepcounter{#2}%
7707 \hyper@makecurrent{#2}%

```

```

7708     \let\Hy@dth@currentHref\@currentHref
7709     \def\@tempa{%
7710         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7711     }%
7712     \fi
7713     \@tempa
7714 }%
7715 \else
7716 \def\@thm#1#2#3{%
7717     \ifhmode
7718         \unskip\unskip\par
7719     \fi
7720     \normalfont
7721     \trivlist
7722     \let\thmheadnl\relax
7723     \let\thm@swap\@gobble
7724     \thm@notefont{\fontseries\mddefault\upshape}%
7725     \thm@headpunct{.}% add period after heading
7726     \thm@headsep 5\p@ plus\p@ minus\p@\relax
7727     \thm@space@setup
7728     #1% style overrides
7729     \@topsep \thm@preskip           % used by thm head
7730     \@topsepadd \thm@postskip       % used by \@endparenv
7731     \def\dth@counter{#2}%
7732     \ifx\@empty\dth@counter
7733         \def\@tempa{%
7734             \@oparg{\@begintheorem{#3}{}}{}%
7735         }%
7736     \else
7737         \H@refstepcounter{#2}%
7738         \hyper@makecurrent{#2}%
7739         \let\Hy@dth@currentHref\@currentHref
7740         \def\@tempa{%
7741             \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7742         }%
7743     \fi
7744     \@tempa
7745 }%
7746 \fi
7747 \dth@everypar={%
7748     \@minipagefalse
7749     \global\@newlistfalse
7750     \@noparitemfalse
7751     \if@inlabel
7752         \global\@inlabelfalse
7753     \begingroup
7754         \setbox\z@\lastbox
7755         \ifvoid\z@
7756             \kern-\itemindent
7757     \fi

```

```

7758 \endgroup
7759 \ifx\@empty\dth@counter
7760 \else
7761 \Hy@raisedlink{%
7762 \hyper@anchorstart{%
7763 \ltx@ifundefined{Hy@dth@currentHref}%
7764 \@currentHref\Hy@dth@currentHref
7765 }\hyper@anchorend
7766 }%
7767 \fi
7768 \unhbox\@labels
7769 \fi
7770 \if@nobreak
7771 \@nobreakfalse \clubpenalty\@M
7772 \else
7773 \clubpenalty\@clubpenalty \everypar{}%
7774 \fi
7775 }%
7776 }{}

```

36 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms `\footnotemark` and `\footnotetext` are used, force them to use un-hyper original.

```

7777 \ifHy@hyperfootnotes
7778 \newcounter{Hfootnote}%
7779 \let\H@@@footnotetext\@footnotetext
7780 \let\H@@@footnotemark\@footnotemark
7781 \def\@xfootnotenext[#1]{%
7782 \begingroup
7783 \csname c@\@mpfn\endcsname #1\relax
7784 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7785 \endgroup
7786 \ifx\@footnotetext\@mpfootnotetext
7787 \expandafter\H@@@mpfootnotetext
7788 \else
7789 \expandafter\H@@@footnotetext
7790 \fi
7791 }%
7792 \def\@xfootnotemark[#1]{%
7793 \begingroup
7794 \c@footnote #1\relax
7795 \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7796 \endgroup
7797 \H@@@footnotemark

```

```

7798 }%
7799 \let\H@@mpfootnotetext\@mpfootnotetext
7800 \long\def\@mpfootnotetext#1{%
7801   \H@@mpfootnotetext{%
7802     \ifHy@nesting
7803       \expandafter\ltx@firstoftwo
7804     \else
7805       \expandafter\ltx@secondoftwo
7806     \fi
7807   {%
7808     \expandafter\hyper@@anchor\expandafter{%
7809       \Hy@footnote@currentHref
7810     }{#1}%
7811   }{%
7812     \Hy@raisedlink{%
7813       \expandafter\hyper@@anchor\expandafter{%
7814         \Hy@footnote@currentHref
7815       }{\relax}%
7816     }#1%
7817   }%
7818 }%
7819 }%
7820 \long\def\@footnotetext#1{%
7821   \H@@@footnotetext{%
7822     \ifHy@nesting
7823       \expandafter\ltx@firstoftwo
7824     \else
7825       \expandafter\ltx@secondoftwo
7826     \fi
7827   {%
7828     \expandafter\hyper@@anchor\expandafter{%
7829       \Hy@footnote@currentHref
7830     }{#1}%
7831   }{%
7832     \Hy@raisedlink{%
7833       \expandafter\hyper@@anchor\expandafter{%
7834         \Hy@footnote@currentHref
7835       }{\relax}%
7836     }%
7837     \let\@currentHref\Hy@footnote@currentHref
7838     \let\@currentlabelname\@empty
7839     #1%
7840   }%
7841 }%
7842 }%

```

Redefine `\@footnotemark`, borrowing its code (at the cost of getting out of sync with `latex.ltx`), to take advantage of its white space and hyphenation fudges. If we just overload it, we can get variant documents (the word before the footnote is treated differently). Thanks to David Carlisle and Brian Ripley for confusing and

helping me on this.

```

7843 \def\@footnotemark{%
7844 \leavevmode
7845 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7846 \stepcounter{Hfootnote}%
7847 \global\let\Hy@saved@currentHref\@currentHref
7848 \hyper@makecurrent{Hfootnote}%
7849 \global\let\Hy@footnote@currentHref\@currentHref
7850 \global\let\@currentHref\Hy@saved@currentHref
7851 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7852 \@makefnmark
7853 \hyper@linkend
7854 \ifhmode\spacefactor\@x@sf\fi
7855 \relax
7856 }%

```

Tabularx causes footnote problems, disable the linking if that is loaded. Since v6.82i footnotes are only disabled inside the environment ‘tabularx’.

```

7857 \@ifpackageloaded{tabularx}{%
7858 \let\HyOrg@TX@endtabularx\TX@endtabularx
7859 \def\Hy@tabularx@hook{%
7860 \let\@footnotetext\H@@footnotetext
7861 \let\@footnotemark\H@@footnotemark
7862 \let\@mpfootnotetext\H@@mpfootnotetext
7863 }%
7864 \begingroup
7865 \toks@{\expandafter\TX@endtabularx}%
7866 \xdef\Hy@gtemp{%
7867 \noexpand\Hy@tabularx@hook
7868 \the\toks@
7869 }%
7870 \endgroup
7871 \let\TX@endtabularx\Hy@gtemp
7872 }{}%

```

Support for footnotes in p columns of longtable. Here \footnote commands are splitted into \footnotemark and a call of \footnotetext with the optional argument, that is not supported by hyperref. The result is a link by \footnotemark without valid anchor

```

7873 \@ifpackageloaded{longtable}{%
7874 \CheckCommand*\LT@p@ftntext}[1]{%
7875 \edef\@tempa{%
7876 \the\LT@p@ftn
7877 \noexpand\footnotetext[\the\c@footnote]%
7878 }%
7879 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7880 }%
7881 \long\def\LT@p@ftntext#1{%
7882 \edef\@tempa{%
7883 \the\LT@p@ftn

```

```

7884 \begingroup
7885 \noexpand\c@footnote=\the\c@footnote\relax
7886 \noexpand\protected@xdef\noexpand\@thefnmark{%
7887 \noexpand\thempfn
7888 }%
7889 \noexpand\Hy@LT@footnotetext{%
7890 \Hy@footnote@currentHref
7891 }%
7892 }%
7893 \global\LT@p@ftn\expandafter{%
7894 \@tempa{#1}%
7895 \endgroup
7896 }%
7897 }%
7898 \long\def\Hy@LT@footnotetext#1#2{%
7899 \H@@@footnotetext{%
7900 \ifHy@nesting
7901 \hyper@@@anchor{#1}{#2}%
7902 \else
7903 \Hy@raisedlink{%
7904 \hyper@@@anchor{#1}{\relax}%
7905 }%
7906 \def\@currentHref{#1}%
7907 \let\@currentlabelname\@empty
7908 #2%
7909 \fi
7910 }%
7911 }%
7912 }{}%

```

Footnotes for fancyvrb (Fix by Manuel Pégourié-Gonnard).

```

7913 \ifpackageloaded{fancyvrb}{%
7914 \def\V@@@footnotetext{%
7915 \insert\footins\bgroup
7916 \csname reset@font\endcsname
7917 \footnotesize
7918 \interlinepenalty\interfootnotelinepenalty
7919 \splittopskip\footnotesep
7920 \splitmaxdepth\dp\strutbox
7921 \floatingpenalty \@MM
7922 \hsize\columnwidth
7923 \@parboxrestore
7924 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7925 \@makefnmark}%
7926 \rule{\z@}{\footnotesep}%
7927 \bgroup
7928 \aftergroup\V@@@footnotetext
7929 \Hy@raisedlink{%
7930 \expandafter\hyper@@@anchor\expandafter{%
7931 \Hy@footnote@currentHref

```



```

7932     }\relax}%
7933   }%
7934   \let\@currentHref\Hy@footnote@currentHref
7935   \let\@currentlabelname\@empty
7936   \ignorespaces
7937 }%
7938 }{}%

```

KOMA-Script defines `\footref` that uses both `\ref` and `\@footnotemark` resulting in two links, one of them wrong.

```

7939 \def\Hy@temp#1{%
7940   \begingroup
7941     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7942   \endgroup
7943   \@footnotemark
7944 }%
7945 \ifx\Hy@temp\footref
7946   \def\footref#1{%
7947     \begingroup
7948       \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7949     \endgroup
7950     \H@@@footnotemark
7951   }%
7952 \fi

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

7953 \let\HyOrg@maketitle\maketitle
7954 \def\maketitle{%
7955   \let\Hy@saved@footnotemark\@footnotemark
7956   \let\Hy@saved@footnotetext\@footnotetext
7957   \let\@footnotemark\H@@@footnotemark
7958   \let\@footnotetext\H@@@footnotetext
7959   \@ifnextchar[\Hy@maketitle@optarg{% ]
7960     \HyOrg@maketitle
7961     \Hy@maketitle@end
7962   }%
7963 }%
7964 \def\Hy@maketitle@optarg[#1]{%
7965   \HyOrg@maketitle[{#1}]%
7966   \Hy@maketitle@end
7967 }%
7968 \def\Hy@maketitle@end{%
7969   \ifx\@footnotemark\H@@@footnotemark
7970     \let\@footnotemark\Hy@saved@footnotemark
7971   \fi
7972   \ifx\@footnotetext\H@@@footnotetext
7973     \let\@footnotetext\Hy@saved@footnotetext
7974   \fi

```

```

7975 }%

\realfootnote Does anyone remember the function and purpose of \realfootnote?
7976 \def\realfootnote{%
7977   \@ifnextchar[\@xfootnote{%
7978     \stepcounter{\@mpfn}%
7979     \protected@xdef\@thefnmark{\thempfn}%
7980     \H@@footnotemark\H@@footnotetext
7981   }%
7982 }%

7983 \fi
7984 \Hy@DisableOption{hyperfootnotes}

7985 </package>
7986 <*check>
7987 \checklatex
7988 \checkcommand\def\@xfootnotenext[#1]{%
7989   \begingroup
7990   \csname c@\@mpfn\endcsname #1\relax
7991   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7992 \endgroup
7993 \@footnotetext
7994 }
7995 \checkcommand\def\@xfootnotemark[#1]{%
7996   \begingroup
7997   \c@footnote #1\relax
7998   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7999 \endgroup
8000 \@footnotemark
8001 }
8002 \checkcommand\def\@footnotemark{%
8003   \leavevmode
8004   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
8005   \@makefnmark
8006   \ifhmode\spacefactor\@x@sf\fi
8007   \relax
8008 }
8009 </check>
8010 <*package>

```

37 Float captions

Make the float caption the hypertext anchor; curiously enough, we can't just copy the definition of `\@caption`. Its all to do with expansion. It screws up. Sigh.

```

8011 \def\caption{%
8012   \ifx\@capytype\@undefined
8013     \@latex@error{\noexpand\caption outside float}\@ehd
8014     \expandafter\@gobble

```

```

8015 \else
8016 \H@refstepcounter\@capttype
8017 \let\Hy@tempa\@caption
8018 \@ifundefined{float@caption}{%
8019 }{%
8020 \expandafter\ifx\csname @float@c@\@capttype\endcsname
8021 \float@caption
8022 \let\Hy@tempa\Hy@float@caption
8023 \fi
8024 }%
8025 \expandafter\@firstofone
8026 \fi
8027 {\@dblarg{\Hy@tempa\@capttype}}%
8028 }
8029 \long\def\@caption#1[#2]#3{%
8030 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8031 \csname iftrue\endcsname
8032 \global\let\@currentHref\hc@currentHref
8033 \else
8034 \hyper@makecurrent{\@capttype}%
8035 \fi
8036 \@ifundefined{NR@gettitle}{%
8037 \def\@currentlabelname{#2}%
8038 }{%
8039 \NR@gettitle{#2}%
8040 }%
8041 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
8042 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8043 }%
8044 \begingroup
8045 \@parboxrestore
8046 \if@minipage
8047 \@setminipage
8048 \fi
8049 \normalsize
8050 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8051 \csname iftrue\endcsname
8052 \global\@capstartfalse
8053 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
8054 \else
8055 \@makecaption{\csname fnum@#1\endcsname}{%
8056 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

8057 \ifHy@nesting
8058 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
8059 \else
8060 \Hy@raisedlink{%
8061 \expandafter\hyper@@anchor\expandafter{%
8062 \@currentHref

```

```

8063         }{\relax}%
8064     }%
8065     #3%
8066     \fi
8067 }%
8068 \fi
8069 \par
8070 \endgroup
8071 }

```

Compatibility with float.sty: anchor setting at the top of the float, if the float is controlled by float.sty. Several `\caption` commands inside one float are not supported.

`\HyNew@float@makebox` is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

```

8072 \let\Hy@float@caption\@caption
8073 \newcommand{\HyNew@float@makebox}[1]{%
8074   \HyOrg@float@makebox{%
8075     #1\relax
8076     \ifx\Hy@float@currentHref\@undefined
8077     \else
8078       \expandafter\hyper@@anchor\expandafter{%
8079         \Hy@float@currentHref
8080       }{\relax}%
8081     \global\let\Hy@float@currentHref\@undefined
8082     \fi
8083   }%
8084 }%
8085 \@ifpackageloaded{float}{%
8086   \def\Hy@float@caption{%
8087     \ifx\Hy@float@currentHref\@undefined
8088       \hyper@makecurrent{\@capttype}%
8089       \global\let\Hy@float@currentHref\@currentHref
8090     \else
8091       \let\@currentHref\Hy@float@currentHref
8092     \fi
8093     \float@caption
8094   }%
8095   \let\HyOrg@float@makebox\float@makebox
8096   \let\float@makebox\HyNew@float@makebox
8097 }{}

8098 \</package>
8099 \<*check>
8100 \checklatex[1999/06/01 - 2000/06/01]
8101 \checkcommand\def\caption{%
8102   \ifx\@capttype\@undefined
8103     \@latex@error{\noexpand\caption outside float}\@ehd
8104     \expandafter\@gobble
8105   \else

```

```

8106 \refstepcounter\@captype
8107 \expandafter\@firstofone
8108 \fi
8109 {\@dblarg{\@caption\@captype}}}%
8110 }
8111 \checkcommand\long\def\@caption#1[#2]#3{%
8112 \par
8113 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
8114 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8115 }%
8116 \begingroup
8117 \@parboxrestore
8118 \if@minipage
8119 \@setminipage
8120 \fi
8121 \normalsize
8122 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
8123 \endgroup
8124 }
8125 \</check>
8126 \<*package>

```

38 Bibliographic references

This is not very robust, since many styles redefine these things. The package used to redefine `\@citex` and the like; then we tried adding the `hyperref` call explicitly into the `.aux` file. Now we redefine `\bibcite`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

However, let's make an attempt to get *natbib* right, because that's a powerful, important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for us, so all we need to do is activate them.

```

8127 \def\hyper@natlinkstart#1{%
8128 \Hy@backout{#1}%
8129 \hyper@linkstart{cite}{cite.#1}%
8130 \def\hyper@nat@current{#1}%
8131 }
8132 \def\hyper@natlinkend{%
8133 \hyper@linkend
8134 }
8135 \def\hyper@natlinkbreak#1#2{%
8136 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
8137 }
8138 \def\hyper@natanchorstart#1{%
8139 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
8140 }
8141 \def\hyper@natanchorend{\hyper@anchorend}

```

Do not play games if we have natbib support. Macro extra@binfo added for chapterbib support. Chapterbib also wants \@extra@binfo in the hyper-link, but since the link tag is not expanded immediately, we use \@extra@b@citeb, so cites in a chapter will link to the bibliography in that chapter.

```

8142 \ltx@ifundefined{NAT@parse}{%
8143   \providecommand*\@extra@binfo{}%
8144   \providecommand*\@extra@b@citeb{}%
8145   \def\bibcite#1#2{%
8146     \@newl@bel{b}{#1\@extra@binfo}{%
8147       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
8148     }%
8149   }%
8150   \gdef\@extra@binfo{}%

```

Package babel redefines \bibcite with macro \bbl@cite@choice. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

```

8151 \let\Hy@bibcite\bibcite
8152 \begingroup
8153   \@ifundefined{bbl@cite@choice}{}{%
8154     \g@addto@macro\bbl@cite@choice{%
8155       \let\bibcite\Hy@bibcite
8156     }%
8157   }%
8158 \endgroup

```

\@BIBLABEL is working around a ‘feature’ of RevT_EX.

```

8159 \providecommand*\@BIBLABEL{\@biblabel}%
8160 \def\@lbibitem[#1]#2{%
8161   \@skiphyperreftrue
8162   \H@item[%
8163     \ifx\Hy@raisedlink\@empty
8164       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
8165       \@BIBLABEL{#1}%
8166     \hyper@anchorend
8167   \else
8168     \Hy@raisedlink{%
8169       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
8170     }%
8171     \@BIBLABEL{#1}%
8172   \fi
8173   \hfill
8174 ]%
8175 \@skiphyperreffalse
8176 \if@filesw
8177   \begingroup
8178     \let\protect\noexpand
8179     \immediate\write\@auxout{%
8180       \string\bibcite{#2}{#1}%
8181     }%
8182   \endgroup

```

```

8183 \fi
8184 \ignorespaces
8185 }%

```

Since `\bibitem` is doing its own labelling, call the raw version of `\item`, to avoid extra spurious labels

```

8186 \def\@bibitem#1{%
8187   \@skiphyperreftrue\H@item\@skiphyperreffalse
8188   \Hy@raisedlink{%
8189     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
8190   }%
8191   \if@filesw
8192     \begingroup
8193     \let\protect\noexpand
8194     \immediate\write\@auxout{%
8195       \string\bibcite{#1}{\the\value{\@listctr}}}%
8196     }%
8197   \endgroup
8198   \fi
8199   \ignorespaces
8200 }%
8201 }{}

8202 </package>
8203 <*check>
8204 \checklatex
8205 \checkcommand\def\@lbibitem[#1]#2{%
8206   \item[\@biblabel{#1}\hfill]%
8207   \if@filesw
8208     {%
8209       \let\protect\noexpand
8210       \immediate\write\@auxout{%
8211         \string\bibcite{#2}{#1}%
8212       }%
8213     }%
8214   \fi
8215   \ignorespaces
8216 }
8217 \checkcommand\def\@bibitem#1{%
8218   \item
8219   \if@filesw
8220     \immediate\write\@auxout{%
8221       \string\bibcite{#1}{\the\value{\@listctr}}}%
8222     }%
8223   \fi
8224   \ignorespaces
8225 }
8226 </check>
8227 <*package>

```

RevTeX (bless its little heart) takes over `\bibcite` and looks at the result to

measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

```

8228 \ifclassloaded{revtex}{}%
8229 \Hy@Info{*** compatibility with revtex **** }%
8230 \def\revtex@checking#1#2{%
8231 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8232 \expandafter\def\csname b@#1\endcsname{#2}%
8233 \@SetMaxRnhefLabel{#1}%
8234 \expandafter\let\csname b@#1\endcsname\T@temp
8235 }%

```

Tanmoy provided this replacement for CITE_X. Lord knows what it does. For chapterbib added: extra@b@citeb

```

8236 \@ifundefined{@CITE}{\def\@CITE{\@cite}}{}%
8237 \providecommand*{\@extra@b@citeb}{}%
8238 \def\@CITE[#1]#2{%
8239 \let\@citea\@empty
8240 \leavevmode
8241 \unskip
8242 $^{}%
8243 \scriptstyle
8244 \@CITE{%
8245 \@for\@citeb:=#2\do{%
8246 \@citea
8247 \def\@citea{\penalty\@m\ }%
8248 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8249 \if@filesw
8250 \immediate\write\@auxout{\string\citation{\@citeb}}%
8251 \fi
8252 \@ifundefined{b@\@citeb\extra@b@citeb}{}%
8253 \mbox{\reset@font\bfseries ?}%
8254 \G@refundefinedtrue
8255 \@latex@warning{%
8256 Citation '\@citeb' on page \thepage \space undefined%
8257 }%
8258 }{%
8259 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
8260 }%
8261 }%
8262 }{#1}%
8263 }$%
8264 }%

```

No, life is too short. I am not going to understand the Revtex \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

```

8265 \def\@citex[#1]#2{%
8266 \let\@citea\@empty
8267 \@cite{%
8268 \@for\@citeb:=#2\do{%
8269 \@citea

```



```

8270 \def\citea{\penalty\@m\}%
8271 \edef\citeb{\expandafter\@firstofone\citeb}%
8272 \if@filesw
8273 \immediate\write\@auxout{\string\citation{\citeb}}%
8274 \fi
8275 \ifundefined{b@\citeb\extra@b\citeb}{%
8276 \mbox{\reset@font\bfseries ?}%
8277 \G@refundefinedtrue
8278 \latex@warning{%
8279 Citation '\citeb' on page \thepage \space undefined%
8280 }%
8281 }%
8282 \hbox{\csname b@\citeb\extra@b\citeb\endcsname}%
8283 }%
8284 }%
8285 }{#1}%
8286 }%
8287 }{}

```

38.1 Package harvard

Override Peter Williams' Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to `\begin{document}`, because if `harvard.sty` is loaded and `html.sty` is present and detects pdfTeX, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

8288 \ifpackageloaded{harvard}{%
8289 \Hy@AtBeginDocument{%
8290 \Hy@Info{*** compatibility with harvard ****}%
8291 \Hy@raiselinksfalse
8292 \def\harvardcite#1#2#3#4{%
8293 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8294 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8295 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8296 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8297 }%
8298 \def\HAR@citetoaux#1{%
8299 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8300 \ifHy@backref
8301 \ifx\@empty\@currentlabel
8302 \else
8303 \@bsphack
8304 \if@filesw
8305 \protected@write\@auxout{}{%
8306 \string\@writefile{brf}{%
8307 \string\backcite{#1}{%
8308 {\thepage}{\@currentlabel}{\@currentHref}%

```

```

8309         }%
8310     }%
8311 }%
8312 \fi
8313 \@esphack
8314 \fi
8315 \fi
8316 }%
8317 \def\harvarditem{%
8318     \ifnextchar[\@harvarditem]{\@harvarditem[\null]}%
8319 }%
8320 \def\@harvarditem[#1]#2#3#4#5\par{%
8321     \item[]%
8322     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8323     \if@filesw
8324         \begingroup
8325         \def\protect##1{\string ##1\space}%
8326         \ifthenelse{\equal{#1}{\null}}{%
8327             {\def\next{{#4}{#2}{#2}{#3}}}%
8328             {\def\next{{#4}{#2}{#1}{#3}}}%
8329             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8330         \endgroup
8331     \fi
8332     \protect\hspace*{-\labelwidth}%
8333     \protect\hspace*{-\labelsep}%
8334     \ignorespaces
8335     #5%
8336     \ifHy@backref
8337         \newblock
8338         \backref{\csname br@#4\endcsname}%
8339     \fi
8340     \par
8341 }%

```

\HAR@checkcitations Package hyperref has added \hyper@@link, so the original test \HAR@checkcitations will fail every time and always will appear the “Changed labels” warning. So we have to redefine \Har@checkcitations:

```

8342 \long\def\HAR@checkcitations#1#2#3#4{%
8343     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8344     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8345         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8346         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8347             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8348             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8349                 \else
8350                     \@tempswatrue
8351                 \fi
8352             \else
8353                 \@tempswatrue
8354             \fi

```

```

8355     \else
8356         \@tempswatrue
8357     \fi
8358 }%
8359 }%

8360 }{}

```

38.2 Package chicago

The links by `\citeN` and `\shortciteN` should include the closing parentheses.

```

8361 \@ifpackageloaded{chicago}{%

\citeN
8362 \def\citeN{%
8363     \def\@citesep{-1000}%
8364     \def\@cite##1##2{##1}%
8365     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8366     \@citedata@opt
8367 }%

\shortciteN
8368 \def\shortciteN{%
8369     \def\@citesep{-1000}%
8370     \def\@cite##1##2{##1}%
8371     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8372     \@citedata@opt
8373 }%

\@citedata@opt
8374 \def\@citedata@opt{%
8375     \let\@cite@opt\@empty
8376     \@ifnextchar [{%
8377         \@tempswatrue
8378         \@citedatax@opt
8379     }{%
8380         \@tempswafalse
8381         \@citedatax[]%
8382     }%
8383 }%

\@citedatax@opt
8384 \def\@citedatax@opt[#1]{%
8385     \def\@cite@opt{, #1}%
8386     \@citedatax[{#1}]%
8387 }%

8388 }{}

```

39 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by hyperref.

This where we supply a destination for each page.

```

8389 \ltx@ifclassloaded{slides}{%
8390   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8391   \def\Hy@PageAnchorSlidesPlain{%
8392     \advance\c@page\ltx@one
8393     \edef\Hy@TempPageAnchor{%
8394       \noexpand\hyper@@anchor{%
8395         page.\the\c@slide.\the\c@overlay.\the\c@note%
8396         \ifnum\c@page=\ltx@one
8397           \else
8398             .\the\c@page
8399           \fi
8400       }%
8401     }%
8402     \advance\c@page-\ltx@one
8403   }%
8404   \def\Hy@PageAnchorSlide{%
8405     \advance\c@page\ltx@one
8406     \ifnum\c@page>\ltx@one
8407       \ltx@ifundefined{theHpage}{%
8408         \protected@edef\Hy@TheSlideOptionalPage{%
8409           \Hy@SlidesFormatOptionalPage{\thepage}%
8410         }%
8411       }{%
8412         \protected@edef\Hy@TheSlideOptionalPage{%
8413           \Hy@SlidesFormatOptionalPage{\theHpage}%
8414         }%
8415       }%
8416     \else
8417       \def\Hy@TheSlideOptionalPage{}%
8418     \fi
8419     \advance\c@page-\ltx@one
8420     \pdfstringdef\@the@H@page{%
8421       \csname
8422         the%
8423         \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8424         \Hy@SlidesPage
8425       \endcsname
8426     \Hy@TheSlideOptionalPage
8427   }%
8428   \ltx@gobblethree
8429 }%
```

```

8430 \def\Hy@SlidesPage{slide}%
8431 \g@addto@macro\slide{%
8432   \def\Hy@SlidesPage{slide}%
8433 }%
8434 \g@addto@macro\overlay{%
8435   \def\Hy@SlidesPage{overlay}%
8436 }%
8437 \g@addto@macro\note{%
8438   \def\Hy@SlidesPage{note}%
8439 }%
8440 }{%
8441 \def\Hy@PageAnchorSlidesPlain{}%
8442 \def\Hy@PageAnchorSlide{}%
8443 }
8444 \def\Hy@EveryPageAnchor{%
8445   \Hy@DistillerDestFix
8446   \ifHy@pageanchor
8447     \ifHy@hypertextnames
8448       \ifHy@plainpages
8449         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8450         \Hy@PageAnchorSlidesPlain
8451       \else
8452         \begingroup
8453           \let\@number\@firstofone
8454           \Hy@unicodedefalse
8455           \Hy@PageAnchorSlide
8456           \pdfstringdef\@the@H@page{\thepage}%
8457         \endgroup
8458         \EdefUnescapeString\@the@H@page{\@the@H@page}%
8459         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8460       \fi
8461     \else
8462       \Hy@GlobalStepCount\Hy@pagecounter
8463       \def\Hy@TempPageAnchor{%
8464         \hyper@@anchor{page.\the\Hy@pagecounter}%
8465       }%
8466     \fi
8467   \vbox to 0pt{%
8468     \kern\voffset
8469     \kern\topmargin
8470     \kern-1bp\relax
8471     \hbox to 0pt{%
8472       \kern\hoffset
8473       \kern\ifodd\value{page}%
8474         \oddsidemargin
8475       \else
8476         \evensidemargin
8477       \fi
8478       \kern-1bp\relax
8479       \Hy@TempPageAnchor\relax

```

```

8480     \hss
8481   }%
8482   \vss
8483 }%
8484 \fi
8485 }
8486 \g@addto@macro\Hy@EveryPageBoxHook{%
8487   \Hy@EveryPageAnchor
8488 }

```

40 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble.

```

8489 \def\addcontentsline#1#2#3{% toc extension, type, tag
8490   \begingroup
8491     \let\label\@gobble
8492     \ifx\@currentHref\@empty
8493       \Hy@Warning{%
8494         No destination for bookmark of \string\addcontentsline,%
8495         \MessageBreak destination is added%
8496       }%
8497     \phantomsection
8498   \fi
8499   \expandafter\ifx\csize toplevel@#2\endcsize\relax
8500   \begingroup
8501     \def\Hy@tempa{#1}%
8502     \ifx\Hy@tempa\Hy@bookmarkstype
8503       \Hy@WarningNoLine{%
8504         bookmark level for unknown #2 defaults to 0%
8505       }%
8506     \else
8507       \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8508     \fi
8509   \endgroup
8510   \expandafter\gdef\csize toplevel@#2\endcsize{0}%
8511   \fi
8512   \edef\Hy@toclevel{\csize toplevel@#2\endcsize}%
8513   \Hy@writebookmark{\csize the#2\endcsize}%
8514     {#3}%
8515     {\@currentHref}%
8516     {\Hy@toclevel}%
8517     {#1}%
8518   \ifHy@verbose
8519     \begingroup
8520       \def\Hy@tempa{#3}%
8521       \@onelevel@sanitize\Hy@tempa

```

```

8522 \let\temp@online\on@line
8523 \let\on@line\@empty
8524 \Hy@Info{%
8525   bookmark\temp@online:\MessageBreak
8526   thecounter {\csname the#2\endcsname}\MessageBreak
8527   text {\Hy@tempa}\MessageBreak
8528   reference {\@currentHref}\MessageBreak
8529   toplevel {\Hy@toclevel}\MessageBreak
8530   type {\#1}%
8531 }%
8532 \endgroup
8533 \fi
8534 \addtocontents{\#1}{%
8535   \protect\contentsline{\#2}{\#3}{\thepage}{\@currentHref}%
8536 }%
8537 \endgroup
8538 }

```

\contentsline The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

```

8539 \def\contentsline#1#2#3#4{%
8540   \begingroup
8541   \Hy@safe@activetrue
8542   \edef\x{\endgroup
8543     \def\noexpand\Hy@tocdestname{\#4}%
8544   }\x
8545   \ifx\Hy@tocdestname\ltx@empty
8546     \csname l@#1\endcsname{\#2}{\#3}%
8547   \else
8548     \ifcase\Hy@linktoc % none
8549       \csname l@#1\endcsname{\#2}{\#3}%
8550     \or % section
8551       \csname l@#1\endcsname{%
8552         \hyper@linkstart{link}{\Hy@tocdestname}{\#2}\hyper@linkend
8553       }{\#3}%
8554     \or % page
8555       \def\Hy@temp{\#3}%
8556       \ifx\Hy@temp\ltx@empty
8557         \csname l@#1\endcsname{\#2}{\#3}%
8558       \else
8559         \csname l@#1\endcsname{{\#2}}{%
8560           \hyper@linkstart{link}{\Hy@tocdestname}{\#3}\hyper@linkend
8561         }%
8562       \fi
8563     \else % all
8564       \def\Hy@temp{\#3}%
8565       \ifx\Hy@temp\ltx@empty
8566         \csname l@#1\endcsname{%
8567           \hyper@linkstart{link}{\Hy@tocdestname}{\#2}\hyper@linkend
8568         }{}%

```

```

8569     \else
8570         \csname l@#1\endcsname{%
8571             \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8572         }{%
8573             \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8574         }%
8575     \fi
8576 \fi
8577 \fi
8578 }

8579 </package>
8580 <*check>
8581 \checklatex
8582 \checkcommand\def\addcontentsline#1#2#3{%
8583     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8584 }
8585 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8586 </check>
8587 <*package>

```

41 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

8588 \let\H@definecounter\@definecounter
8589 \def\@definecounter#1{%
8590     \H@definecounter{#1}%
8591     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8592 }

```

But what if they have used the optional argument to e.g. `\newtheorem` to determine when the numbering is reset? OK, we'll trap that too.

```

8593 \let\H@newctr\@newctr
8594 \def\@newctr#1[#2]{%
8595     \H@newctr#1[{#2}]%
8596     \expandafter\gdef\csname theH#1\endcsname{%
8597         \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8598     }%
8599 }

```

42 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

```

8600 \ifpackageloaded{amsmath}{%
8601   \def\Hy@make@anchor{%
8602     \Hy@MakeCurrentHrefAuto{AMS}%
8603     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8604   }%
8605   \def\Hy@make@df@tag@#1{%
8606     \gdef\df@tag{%
8607       \maketag@@@{\Hy@make@anchor#1}%
8608       \def\@currentlabel{#1}%
8609     }%
8610   }%
8611   \def\Hy@make@df@tag@@#1{%
8612     \gdef\df@tag{%
8613       \tagform@{\Hy@make@anchor#1}%
8614       \toks@{\xp{\p@equation{#1}}}%
8615       \edef\@currentlabel{\the\toks@}%
8616     }%
8617   }%
8618   \let\HyOrg@make@df@tag@@\make@df@tag@@
8619   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
8620   \let\make@df@tag@@\Hy@make@df@tag@@
8621   \let\make@df@tag@@@ \Hy@make@df@tag@@@
8622 }{}

```

Only play with \seteqlebal if we are using pdftex. Other drivers cause problems; requested by Michael Downes (AMS).

```

8623 \ifpackagewith{hyperref}{pdftex}{%
8624   \let\H@seteqlabel\@seteqlabel
8625   \def\@seteqlabel#1{%
8626     \H@seteqlabel{#1}%
8627     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8628     \Hy@raisedlink{%
8629       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8630     }%
8631   }%
8632 }{}

```

This code I simply cannot remember what I was trying to achieve. The final result seems to do nothing anyway.

```

\let\H@tagform@\tagform@
\def\tagform@#1{%
  \maketag@@@{\hyper@@anchor{\@currentHref}%
    {\ignorespaces#1\unskip}}}%
}
\def\eqref#1{\textup{\H@tagform@\ref{#1}}}

```

42.1 \@addtoreset and \numberwithin patches

\@addtoreset puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the hyperref version of the counter print command \theHcounter is redefined in order to add the parent counter.

```

8633 \let\HyOrg@addtoreset\@addtoreset
8634 \def\@addtoreset#1#2{%
8635   \HyOrg@addtoreset{#1}{#2}%
8636   \expandafter\xdef\csname theH#1\endcsname{%
8637     \expandafter\noexpand
8638       \csname the\@ifundefined{theH#2}{}H#2\endcsname
8639     .\noexpand\the\noexpand\value{#1}%
8640   }%
8641 }
```

\numberwithin A appropriate definition of hyperref's companion counter (\theH...) is added for correct link names.

```

8642 </package>
8643 <*check>
8644 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8645 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8646   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8647     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8648       \@addtoreset{#2}{#3}%
8649       \@xp\xdef\csname the#2\endcsname{%
8650         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8651       }%
8652     }%
8653   }%
8654 }%
8655 </check>
8656 <*package>
8657 \@ifpackageloaded{amsmath}{%
8658   \@ifpackagelater{amsmath}{1999/12/14}{%
8659     \renewcommand*\numberwithin[3][\arabic]{%
8660       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8661         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8662           \HyOrg@addtoreset{#2}{#3}%
8663           \@xp\xdef\csname the#2\endcsname{%
8664             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8665           }%
8666           \@xp\xdef\csname theH#2\endcsname{%
8667             \@xp\@nx
8668             \csname the\@ifundefined{theH#3}{}H#3\endcsname
8669             .\@nx#1{#2}%
8670           }%
8671         }%
8672       }%
8673     }%
8674   }%
8675 }
```

```

8673 }%
8674 }{%
8675 \Hy@WarningNoLine{%
8676 \string\numberwithin\space of package 'amsmath' %
8677 only fixed\MessageBreak
8678 for version 2000/06/06 v2.12 or newer%
8679 }%
8680 }%
8681 }{}

```

43 Included figures

Simply intercept the low level graphics package macro.

```

8682 \ifHy@hyperfigures
8683 \let\Hy@Gin@setfile\Gin@setfile
8684 \def\Gin@setfile#1#2#3{%
8685 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8686 }%
8687 \fi
8688 \Hy@DisableOption{hyperfigures}

```

44 hyperindex entries

Internal command names are prefixed with `\HyInd@`.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the `|` feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the `|` specifier for something like boldening entries. That would make `Makeindex` fail (cannot have two `|` specifiers). The solution is for the author to use generic coding, and put in the requisite `\hyperpage` in his/her own macros along with the boldness.

This section is poor stuff; it's open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

8689 \ifHy@hyperindex
8690 \def\HyInd@ParenLeft{({}%
8691 \def\HyInd@ParenRight{)}}%
8692 \def\hyperindexformat#1#2{%
8693 \let\HyOrg@hyperpage\hyperpage
8694 \let\hyperpage\@firstofone
8695 #1{\HyOrg@hyperpage{#2}}%
8696 \let\hyperpage\HyOrg@hyperpage
8697 }%
8698 \Hy@nextfalse
8699 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8700 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8701 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8702 \begingroup

```

```

8703 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8704 \lccode'\|/='\\relax
8705 \lowercase{\endgroup
8706 \ifHy@next
8707 \let\HyInd@org@wrindex\@wrindex
8708 \def\@wrindex#1#2{\HyInd@@@wrindex{#1}#2||\}%
8709 \def\HyInd@@@wrindex#1#2|#3|#4\{\%
8710 \ifx\\#3\%
8711 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8712 \else
8713 \HyInd@@@wrindex{#1}{#2}#3\%
8714 \fi
8715 }%
8716 \def\HyInd@@@wrindex#1#2#3#4\{\%
8717 \def\Hy@temp@A{#3}%
8718 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8719 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8720 \relax
8721 \HyInd@org@wrindex{#1}{%
8722 #2|hyperindexformat{/#3#4}%
8723 }%
8724 \else
8725 \ifx\\#4\%
8726 \ifx\Hy@temp@A\HyInd@ParenRight
8727 \HyInd@org@wrindex{#1}{#2|#3}%
8728 \else
8729 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8730 \fi
8731 \else
8732 \HyInd@org@wrindex{#1}{%
8733 #2|#3hyperindexformat{/#4}%
8734 }%
8735 \fi
8736 \fi
8737 }%
8738 \else
8739 \def\@wrindex#1{\@@wrindex#1||\}%
8740 \def\@@wrindex#1|#2|#3\{\%
8741 \if@files
8742 \ifx\\#2\%
8743 \protected@write\@indexfile{\%
8744 \string\indexentry{#1|hyperpage}{\thepage}%
8745 }%
8746 \else
8747 \HyInd@@@wrindex{#1}#2\%
8748 \fi
8749 \fi
8750 \endgroup
8751 \@esphack
8752 }%

```

```

8753 \def\HyInd@@@wrindex#1#2#3\\{%
8754 \def\Hy@temp@A{#2}%
8755 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8756 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8757 \relax
8758 \protected@write\@indexfile{}{%
8759 \string\indexentry{%
8760 #1|hyperindexformat{/#2#3}%
8761 }\the page}%
8762 }%
8763 \else
8764 \ifx\\#3\\%
8765 \ifx\Hy@temp@A\HyInd@ParenRight
8766 \HyInd@DefKey{#1}%
8767 \ltx@ifundefined{HyInd@(\HyInd@key)}{%
8768 \let\Hy@temp\ltx@empty
8769 }{%
8770 \expandafter\let\expandafter\Hy@temp
8771 \csname HyInd@(\HyInd@key)\endcsname
8772 }%
8773 \protected@write\@indexfile{}{%
8774 \string\indexentry{#1|#2\Hy@temp}\the page}%
8775 }%
8776 \else
8777 \protected@write\@indexfile{}{%
8778 \string\indexentry{#1|#2hyperpage}\the page}%
8779 }%
8780 \HyInd@DefKey{#1}%
8781 \expandafter
8782 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8783 hyperpage%
8784 }%
8785 \fi
8786 \else
8787 \protected@write\@indexfile{}{%
8788 \string\indexentry{%
8789 #1|#2hyperindexformat{/#3}%
8790 }\the page}%
8791 }%
8792 \ifx\Hy@temp@A\HyInd@ParenLeft
8793 \HyInd@DefKey{#1}%
8794 \expandafter
8795 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8796 hyperindexformat{/#3}%
8797 }%
8798 \fi
8799 \fi
8800 \fi
8801 }%
8802 \def\HyInd@DefKey#1{%

```

```

8803     \begingroup
8804     \let\protect\@unexpandable@protect
8805     \edef\Hy@temp{#1}%
8806     \ltx@onelevel@sanitize\Hy@temp
8807     \global\let\HyInd@key\Hy@temp
8808     \endgroup
8809   }%
8810   \fi
8811 }%
8812 \fi
8813 \Hy@DisableOption{hyperindex}
8814 \Hy@DisableOption{encap}

```

`\nohyperpage` The definition of `\nohyperpage` is just a precaution. It is used to mark code that does not belong to a page number, but `\nohyperpage` is never executed.

```

8815 \def\nohyperpage#1{#1}

```

This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

```

8816 \def\hyperpage#1{%
8817   \HyInd@hyperpage#1\nohyperpage{}\@nil
8818 }
8819 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8820   \HyInd@@hyperpage{#1}%
8821   #2%
8822   \def\Hy@temp{#3}%
8823   \ifx\Hy@temp\@empty
8824     \else
8825       \ltx@ReturnAfterFi{%
8826         \HyInd@hyperpage#3\@nil
8827       }%
8828     \fi
8829 }
8830 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8831 \def\@hyperpage#1--#2--#3\{\%
8832   \ifx\#2\%
8833     \@commahyperpage{#1}%
8834     \else
8835       \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8836     \fi
8837 }
8838 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8839 \def\@commahyperpage#1, #2,#3\{\%
8840   \ifx\#2\%
8841     \HyInd@pagelink{#1}%
8842     \else
8843       \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8844     \fi
8845 }

```

The argument of `\hyperpage` can be empty. And the line breaking algorithm of `Makeindex` can introduce spaces. So we have to remove them.

```

8846 \def\HyInd@pagelink#1{%
8847   \begingroup
8848   \toks@={}%
8849   \HyInd@removespaces#1 \@nil
8850 \endgroup
8851 }
8852 \def\HyInd@removespaces#1 #2\@nil{%
8853   \toks@=\expandafter{\the\toks@#1}%
8854   \ifx\#2\%
8855     \edef\x{\the\toks@}%
8856     \ifx\x\@empty
8857       \else
8858         \hyperlink{page.\the\toks@}{\the\toks@}%
8859       \fi
8860     \else
8861       \ltx@ReturnAfterFi{%
8862         \HyInd@removespaces#2\@nil
8863       }%
8864     \fi
8865 }

```

45 Compatibility with foiltex

```

8866 \@ifclassloaded{foils}{%
8867   \providecommand*\ext@table{lot}%
8868   \providecommand*\ext@figure{lof}%
8869 }{}

```

46 Compatibility with seminar slide package

This requires `seminar.bg2`, version 1.6 or later. Contributions by Denis Girou (denis.girou@idris.fr).

```

8870 \@ifclassloaded{seminar}{%
8871   \Hy@seminarslidestrue
8872   \providecommand\theHslide{\arabic{slide}}%
8873 }{%
8874   \Hy@seminarslidesfalse
8875 }
8876 \@ifpackageloaded{slidesec}{%
8877   \providecommand\theHslidesection {\arabic{slidesection}}%
8878   \providecommand\theHslidesubsection{%
8879     \theHslidesection.\arabic{slidesubsection}%
8880   }%
8881   \def\slide@heading[#1]#2{%
8882     \H@refstepcounter{slidesection}%
8883     \@addtoreset{slidesubsection}{slidesection}%

```

```

8884 \addtocontents{los}{%
8885   \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8886   {\@SCTR}{slideheading.\theslidesection}%
8887 }%
8888 \def\Hy@tempa{#2}%
8889 \ifx\Hy@tempa\@empty
8890 \else
8891   {%
8892     \edef\@currentlabel{%
8893       \csname p@slidesection\endcsname\theslidesection
8894     }%
8895     \makeslideheading{#2}%
8896   }%
8897 \fi
8898 \gdef\theslideheading{#1}%
8899 \gdef\theslidesubheading{}%
8900 \ifHy@bookmarksnumbered
8901   \def\Hy@slidetitle{\theslidesection\space #1}%
8902 \else
8903   \def\Hy@slidetitle{#1}%
8904 \fi
8905 \ifHy@hypertextnames
8906   \ifHy@naturalnames
8907     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8908     \Hy@writebookmark
8909       {\theslidesection}%
8910       {\Hy@slidetitle}%
8911       {slideheading.\theslidesection}%
8912       {1}%
8913       {toc}%
8914   \else
8915     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8916     \Hy@writebookmark
8917       {\theslidesection}%
8918       {\Hy@slidetitle}%
8919       {slideheading.\theHslidesection}%
8920       {1}%
8921       {toc}%
8922   \fi
8923 \else
8924   \Hy@GlobalStepCount\Hy@linkcounter
8925   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8926   \Hy@writebookmark
8927     {\theslidesection}%
8928     {\Hy@slidetitle}%
8929     {slideheading.\the\Hy@linkcounter}%
8930     {1}%
8931     {toc}%
8932 \fi
8933 }%

```



```

8934 \def\slide@subheading[#1]#2{%
8935   \H@refstepcounter{slidesubsection}%
8936   \addtocontents{los}{%
8937     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8938     {\@SCTR}{slideheading.\theslidesubsection}%
8939   }%
8940   \def\Hy@tempa{#2}%
8941   \ifx\Hy@tempa\@empty
8942   \else
8943   {%
8944     \edef\@currentlabel{%
8945       \csname p@slidesubsection\endcsname\theslidesubsection
8946     }%
8947     \makeslidesubheading{#2}%
8948   }%
8949   \fi
8950   \gdef\theslidesubheading{#1}%
8951   \ifHy@bookmarksnumbered
8952     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8953   \else
8954     \def\Hy@slidetitle{#1}%
8955   \fi
8956   \ifHy@hypertexnames
8957     \ifHy@naturalnames
8958       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8959       \Hy@writebookmark
8960         {\theslidesubsection}%
8961         {\Hy@slidetitle}%
8962         {slideheading.\theslidesubsection}%
8963         {2}%
8964         {toc}%
8965     \else
8966       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8967       \Hy@writebookmark
8968         {\theslidesubsection}%
8969         {\Hy@slidetitle}%
8970         {slideheading.\theHslidesubsection}%
8971         {2}%
8972         {toc}%
8973     \fi
8974   \else
8975     \Hy@GlobalStepCount\Hy@linkcounter
8976     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8977     \Hy@writebookmark
8978       {\theslidesubsection}%
8979       {\Hy@slidetitle}%
8980       {slideheading.\the\Hy@linkcounter}%
8981       {1}%
8982       {toc}%
8983   \fi

```

```

8984 }%
8985 \providecommand*{\listslidenamename}{List of Slides}%
8986 \def\listofslides{%
8987   \section*{%
8988     \listslidenamename
8989     \@mkboth{%
8990       \expandafter\MakeUppercase\listslidenamename
8991     }{%
8992       \expandafter\MakeUppercase\listslidenamename
8993     }%
8994   }%
8995   \def\l@slide##1##2##3##4{%
8996     \slide@undottedcline{%
8997       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8998     }{}%
8999   }%
9000   \let\l@subslide\l@slide
9001   \@startlos
9002 }%
9003 \def\slide@contents{%
9004   \def\l@slide##1##2##3##4{%
9005     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
9006   }%
9007   \let\l@subslide\@gobblefour
9008   \@startlos
9009 }%
9010 \def\Slide@contents{%
9011   \def\l@slide##1##2##3##4{%
9012     \ifcase\lslide@flag
9013       \message{##1 ** \the\c@slidesection}%
9014       \ifnum##1>\c@slidesection
9015         \def\lslide@flag{1}%
9016         {%
9017           \large
9018           \slide@ccline{%
9019             \slidenumberline{$\rightarrow$bullet}%
9020             {\hyperlink{##4}{##2}}%
9021           }{##3}%
9022         }%
9023       \else
9024         {%
9025           \large
9026           \slide@ccline{%
9027             \slidenumberline{$\surd$bullet}%
9028             {\hyperlink{##4}{##2}}%
9029           }{##3}%
9030         }%
9031       \fi
9032     \or
9033     \def\lslide@flag{2}%

```

```

9034      {%
9035        \large
9036        \slide@ccline{%
9037          \slidenumberline{$\bullet$}%
9038          {\hyperlink{##4}{##2}}%
9039        }{##3}%
9040      }%
9041    \or
9042    {%
9043      \large
9044      \slide@ccline{%
9045        \slidenumberline{$\bullet$}%
9046        {\hyperlink{##4}{##2}}%
9047      }{##3}%
9048    }%
9049    \fi
9050  }%
9051  \def\l@subslide##1##2##3##4{%
9052    \ifnum\lslide@flag=1 %
9053      \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
9054    \fi
9055  }%
9056  \def\lslide@flag{0}%
9057  \@startlos
9058  }%
9059  }{}

```

This breaks TeX4ht, so leave it to last. Emend `\@setref` to put out a hypertext link as well as its normal text (which is used as an anchor). (`\endinput` have to be on the same line like `\fi`, or you have to use `\expandafter` before.)

```

9060 \iffHy@texht
9061   \expandafter\endinput
9062 \fi
9063 \let\real@setref\@setref
9064 \def\@setref#1#2#3{% csname, extract group, refname
9065   \ifx#1\relax
9066     \protect\G@refundefinedtrue
9067     \nfss@text{\reset@font\bfseries ??}%
9068     \@latex@warning{%
9069       Reference ‘#3’ on page \thepage \space undefined%
9070     }%
9071   \else
9072     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
9073   \fi
9074 }

```

`\Hy@setref@link` extracts the reference information entries, because `\hyper@link` does not expand arguments for the automatic link type detection.

```

9075 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
9076   \begingroup

```

```

9077 \toks0={\hyper@@link{#5}{#4}}%
9078 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
9079 \edef\x{\endgroup
9080   \the\toks0 {\the\toks1 }%
9081 }%
9082 \x
9083 }
9084 \def\@pagesetref#1#2#3{% csname, extract macro, ref
9085   \ifx#1\relax
9086     \protect\G@refundefinedtrue
9087     \nfss@text{\reset@font\bfseries ??}%
9088     \@latex@warning{%
9089       Reference ‘#3’ on page \thepage \space undefined%
9090     }%
9091   \else
9092     \protect\hyper@@link
9093     {\expandafter\@fifthoffive#1}%
9094     {page.\expandafter\@secondoffive#1}%
9095     {\expandafter\@secondoffive#1}%
9096   \fi
9097 }
9098 </package>
9099 <*check>
9100 \checklatex
9101 \checkcommand\def\@setref#1#2#3{%
9102   \ifx#1\relax
9103     \protect\G@refundefinedtrue
9104     \nfss@text{\reset@font\bfseries ??}%
9105     \@latex@warning{%
9106       Reference ‘#3’ on page \thepage\space undefined%
9107     }%
9108   \else
9109     \expandafter#2#1\null
9110   \fi
9111 }
9112 </check>
9113 <*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

9114 \def\HyRef@StarSetRef#1{%
9115   \begingroup
9116   \Hy@safe@activetrue
9117   \edef\x{#1}%
9118   \@onelevel@sanitize\x
9119   \edef\x{\endgroup
9120     \noexpand\HyRef@@StarSetRef
9121     \expandafter\noexpand\csname r@\x\endcsname{\x}%
9122   }%
9123   \x

```

```

9124 }
9125 \def\HyRef@@StarSetRef#1#2#3{%
9126   \ifx#1\@undefined
9127     \let#1\relax
9128   \fi
9129   \real@setref#1#3{#2}%
9130 }
9131 \def\@refstar#1{%
9132   \HyRef@StarSetRef{#1}\@firstoffive
9133 }
9134 \def\@pagerefstar#1{%
9135   \HyRef@StarSetRef{#1}\@secondoffive
9136 }
9137 \def\@namerefstar#1{%
9138   \HyRef@StarSetRef{#1}\@thirdoffive
9139 }
9140 \Hy@AtBeginDocument{%
9141   \ifpackageloaded{varioref}{%
9142     \def\@Refstar#1{%
9143       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
9144     }%
9145     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
9146       \MakeUppercase#1%
9147     }%
9148     \DeclareRobustCommand*\@Ref*{%
9149       \@ifstar\@Refstar\HyRef@Ref
9150     }%
9151     \def\HyRef@Ref#1{%
9152       \hyperref[{#1}]{\@Ref*{#1}}%
9153     }%
9154     \def\Vr@f#1{%
9155       \leavevmode\unskip\vref@space
9156       \hyperref[{#1}]{%
9157         \@Ref*{#1}%
9158         \let\vref@space\nobreakspace
9159         \@vpageref\unskip}{#1}%
9160       }%
9161     }%
9162     \def\vr@f#1{%
9163       \leavevmode\unskip\vref@space
9164       \begingroup
9165         \let\T@pageref\@pagerefstar
9166         \hyperref[{#1}]{%
9167           \@ref*{#1}%
9168           \vpageref\unskip}{#1}%
9169         }%
9170       \endgroup
9171     }%
9172   }{}%
9173 }

```

```

9174 \DeclareRobustCommand*{\autopageref}{%
9175   \@ifstar{%
9176     \HyRef@autopagerefname\pageref*%
9177   }\HyRef@autopageref
9178 }
9179 \def\HyRef@autopageref#1{%
9180   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
9181 }
9182 \def\HyRef@autopagerefname{%
9183   \ltx@ifundefined{pageautorefname}{%
9184     \ltx@ifundefined{pagename}{%
9185       \Hy@Warning{No autoref name for 'page'}%
9186     }{%
9187       \pagename\nobreakspace
9188     }%
9189   }{%
9190     \pageautorefname\nobreakspace
9191   }%
9192 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

9193 \DeclareRobustCommand*{\autoref}{%
9194   \leavevmode
9195   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
9196 }
9197 \def\HyRef@autoref#1#2{%
9198   \begingroup
9199   \Hy@safe@activetrue
9200   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9201   \endgroup
9202 }
9203 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9204   \HyRef@ShowKeysRef{#2}%
9205   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
9206     \edef\HyRef@thisref{%
9207       \expandafter\@fourthoffive#1\@empty\@empty\@empty
9208     }%
9209     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9210     \Hy@safe@activesfalse
9211     #3{%
9212       \expandafter\@fifthoffive#1\@empty\@empty\@empty
9213     }{%
9214       \expandafter\@fourthoffive#1\@empty\@empty\@empty
9215     }{%
9216       \HyRef@currentHtag
9217       \expandafter\@firstoffive#1\@empty\@empty\@empty
9218       \null
9219     }%
9220   \else

```

```

9221 \protect\G@refundefinedtrue
9222 \nfss@text{\reset@font\bfseries ??}%
9223 \@latex@warning{%
9224   Reference '#2' on page \thepage\space undefined%
9225 }%
9226 \fi
9227 }
9228 \def\HyRef@testreftype#1.#2\{\%
9229 \ltx@ifundefined{#1autorefname}\%
9230 \ltx@ifundefined{#1name}\%
9231 \HyRef@StripStar#1\*\@nil{#1}%
9232 \ltx@ifundefined{\HyRef@name autorefname}\%
9233 \ltx@ifundefined{\HyRef@name name}\%
9234 \def\HyRef@currentHtag{%
9235   \Hy@Warning{No autoref name for '#1'}%
9236 }%
9237 \edef\HyRef@currentHtag{%
9238   \expandafter\noexpand\csname\HyRef@name name\endcsname
9239   \noexpand~%
9240 }%
9241 }%
9242 }%
9243 \edef\HyRef@currentHtag{%
9244   \expandafter\noexpand
9245   \csname\HyRef@name autorefname\endcsname
9246   \noexpand~%
9247 }%
9248 }%
9249 }%
9250 \edef\HyRef@currentHtag{%
9251   \expandafter\noexpand\csname#1name\endcsname
9252   \noexpand~%
9253 }%
9254 }%
9255 }%
9256 \edef\HyRef@currentHtag{%
9257   \expandafter\noexpand\csname#1autorefname\endcsname
9258   \noexpand~%
9259 }%
9260 }%
9261 }
9262 \def\HyRef@StripStar#1*\#2\@nil#3{%
9263 \def\HyRef@name{#2}%
9264 \ifx\HyRef@name\HyRef@CaseStar
9265 \def\HyRef@name{#1}%
9266 \else
9267 \def\HyRef@name{#3}%
9268 \fi
9269 }
9270 \def\HyRef@CaseStar{*\\}

```

9271 \def\HyRef@currentHtag{}
 Support for package showkeys.

\HyRef@ShowKeysRef

```

9272 \let\HyRef@ShowKeysRef\@gobble
9273 \def\HyRef@ShowKeysInit{%
9274   \begingroup\expandafter\expandafter\expandafter\endgroup
9275   \expandafter\ifx\csname SK@@label\endcsname\relax
9276   \else
9277     \ifx\SK@ref\@empty
9278     \else
9279       \def\HyRef@ShowKeysRef{%
9280         \SK@\SK@@ref
9281       }%
9282     \fi
9283   \fi
9284 }
9285 \@ifpackageloaded{showkeys}{%
9286   \HyRef@ShowKeysInit
9287 }{%
9288   \Hy@AtBeginDocument{%
9289     \@ifpackageloaded{showkeys}{%
9290       \HyRef@ShowKeysInit
9291     }{}%
9292   }%
9293 }
```

Defaults for the names that \autoref uses.

```

9294 \providecommand*\AMSautorefname{\equationautorefname}
9295 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9296 \providecommand*\Itemautorefname{\itemautorefname}
9297 \providecommand*\itemautorefname{item}
9298 \providecommand*\equationautorefname{Equation}
9299 \providecommand*\footnoteautorefname{footnote}
9300 \providecommand*\itemautorefname{item}
9301 \providecommand*\figureautorefname{Figure}
9302 \providecommand*\tableautorefname{Table}
9303 \providecommand*\partautorefname{Part}
9304 \providecommand*\appendixautorefname{Appendix}
9305 \providecommand*\chapterautorefname{chapter}
9306 \providecommand*\sectionautorefname{section}
9307 \providecommand*\subsectionautorefname{subsection}
9308 \providecommand*\subsubsectionautorefname{subsubsection}
9309 \providecommand*\paragraphautorefname{paragraph}
9310 \providecommand*\subparagraphautorefname{subparagraph}
9311 \providecommand*\FancyVerbLineautorefname{line}
9312 \providecommand*\theoremautorefname{Theorem}
9313 \providecommand*\pageautorefname{page}
9314 \</package>
```


47 Configuration files

47.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers `\pdfescapestring`.

```
9315 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9316 \begingroup\expandafter\expandafter\expandafter\endgroup
9317 \expandafter\ifx\curname pdf@escapestring\endcurname\relax
9318 \begingroup
9319 \catcode'\|=0 %
9320 \@makeother\| %
9321 |@firstofone{|endgroup
9322 |def|Hy@pstringdef#1#2{%
9323 |begingroup
9324 |edef~{|string~}%
9325 |xdef|Hy@gtemp{#2}%
9326 |endgroup
9327 |let#1|Hy@gtemp
9328 |@onelevel@sanitize#1%
9329 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9330 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
9331 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
9332 }%
9333 |def|Hy@ExchangeBackslash#1#2|@nil{%
9334 #1%
9335 |ifx|\#2|\|%
9336 |else
9337 \|%
9338 |ltx@ReturnAfterFi{%
9339 |Hy@ExchangeBackslash#2|@nil
9340 }%
9341 |fi
9342 }%
9343 }%
9344 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9345 #1%
9346 \ifx\\#2\\%
9347 \else
9348 \@backslashchar(%
9349 \ltx@ReturnAfterFi{%
9350 \Hy@ExchangeLeftParenthesis#2\@nil
9351 }%
9352 \fi
```

```

9353 }%
9354 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9355   #1%
9356   \ifx\\#2\\%
9357   \else
9358     \@backslashchar)%
9359     \ltx@ReturnAfterFi{%
9360       \Hy@ExchangeRightParenthesis#2\@nil
9361     }%
9362   \fi
9363 }%
9364 \else
9365   \def\Hy@pstringdef#1#2{%
9366     \begingroup
9367       \edef~{\string~}%
9368       \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9369     \endgroup
9370     \let#1\Hy@gtemp
9371   }%
9372 \fi
9373 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

47.2 pdfTeX

```

9374 <*pdfTeX>
9375 \providecommand*{\XR@ext}{pdf}
9376 \Hy@setbreaklinks{true}
9377 \def\HyPat@ObjRef{%
9378   [0-9]*[1-9][0-9]* 0 R%
9379 }

```

This driver is for Han The Thanh's T_EX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option `pdfversion`.

- pdfT_EX 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT_EX 1.30, 2005-08-081: `\pdfminorversion`

```

9380 \let\Hy@pdfminorversion\relax
9381 \begingroup\expandafter\expandafter\expandafter\endgroup
9382 \expandafter\ifx\cname pdfminorversion\endcsname\relax
9383 \begingroup\expandafter\expandafter\expandafter\endgroup
9384 \expandafter\ifx\cname pdfoptionpdfminorversion\endcsname\relax
9385 \else
9386   \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9387 \fi
9388 \else
9389   \def\Hy@pdfminorversion{\pdfminorversion}%
9390 \fi

```

```

9391 \@ifundefined{Hy@pdfminorversion}{%
9392   \PackageInfo{hyperref}{%
9393     PDF version is not set, because pdfTeX is too old (<1.10a)%
9394   }%
9395 }{%
9396   \ifHy@ocgcolorlinks
9397     \ifnum\Hy@pdfminorversion<5 %
9398       \kvsetkeys{Hyp}{pdfversion=1.5}%
9399     \fi
9400   \fi
9401   \ifHy@setpdfversion
9402     \ifnum\Hy@pdfversion<5 %
9403       \ltx@ifundefined{pdfobjcompresslevel}{%
9404         }{%
9405           \ifHy@verbose
9406             \Hy@InfoNoLine{%
9407               PDF object streams are disabled, because they are%
9408               \MessageBreak
9409               not supported in requested PDF version %
9410               1.\Hy@pdfversion
9411             }%
9412           \fi
9413           \pdfobjcompresslevel=\ltx@zero
9414         }%
9415       \fi
9416       \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9417     \else
9418       \let\Hy@temp\ltx@empty
9419       \def\Hy@temp@A#1#2{%
9420         \ifnum#1>\ltx@zero
9421           \edef\Hy@temp{%
9422             \Hy@temp
9423             \space\space
9424             \the#1\space #2%
9425             \ifnum#1=\ltx@one\else s\fi
9426             \MessageBreak
9427           }%
9428           \fi
9429         }%
9430         \Hy@temp@A\pdfastobj{PDF object}%
9431         \Hy@temp@A\pdfastxform{form XObject}%
9432         \Hy@temp@A\pdfastximage{image XObject}%
9433         \Hy@temp@A\pdfastannot{annotation}%
9434         \ltx@ifundefined{pdfastlink}{%
9435         }{%
9436           \Hy@temp@A\pdfastlink{link}%
9437         }%
9438       \ifx\Hy@temp\ltx@empty
9439         \Hy@pdfminorversion=\Hy@pdfversion\relax
9440       \else

```

```

9441 \let\Hy@temp@A\ltx@empty
9442 \ifnum\Hy@pdfversion=4 %
9443 \IfFileExists{pdf14.sty}{%
9444 \def\Hy@temp@A{%
9445 \MessageBreak
9446 Or \string\RequirePackage{pdf14} can be used%
9447 \MessageBreak
9448 before \string\documentclass\space as shortcut%
9449 }%
9450 }{}%
9451 \fi
9452 \Hy@WarningNoLine{%
9453 The PDF version number could not be set,\MessageBreak
9454 because some PDF objects are already written:%
9455 \MessageBreak
9456 \Hy@temp
9457 The version should be set as early as possible:%
9458 \MessageBreak
9459 \space\space
9460 \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9461 \string\relax
9462 \ifnum\Hy@pdfversion<5 %
9463 \ltx@ifundefined{pdfobjcompresslevel}{%
9464 }{%
9465 \MessageBreak
9466 \space\space
9467 \string\pdfobjcompresslevel=0\string\relax
9468 }%
9469 \fi
9470 \Hy@temp@A
9471 }%
9472 \fi
9473 \fi
9474 \PackageInfo{hyperref}{%
9475 \expandafter\string\Hy@pdfminorversion
9476 :=\number\Hy@pdfversion\space
9477 }%
9478 \fi
9479 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9480 }
9481 \Hy@DisableOption{pdfversion}%

9482 \ifHy@ocgcolorlinks
9483 \pdf@ifdraftmode{}{%
9484 \immediate\pdfobj{%
9485 <<%
9486 /Type/OCG%
9487 /Name(View)%
9488 /Usage<<%
9489 /Print<<%

```

```

9490         /PrintState/OFF%
9491     >>%
9492     /View<<%
9493         /ViewState/ON%
9494     >>%
9495 >>%
9496 >>%
9497 }%
9498 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9499 \immediate\pdfobj{%
9500 <<%
9501     /Type/OCG%
9502     /Name(Print)%
9503     /Usage<<%
9504         /Print<<%
9505             /PrintState/ON%
9506         >>%
9507         /View<<%
9508             /ViewState/OFF%
9509         >>%
9510     >>%
9511 >>%
9512 }%
9513 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
9514 \immediate\pdfobj{%
9515     [%
9516         \OBJ@OCG@view\space\OBJ@OCG@print
9517     ]%
9518 }%
9519 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
9520 \pdfcatalog{%
9521     /OCProperties<<%
9522         /OCGs \OBJ@OCGs
9523     /D<<%
9524         /OFF[\OBJ@OCG@print]%
9525         /AS[%
9526             <<%
9527                 /Event/View%
9528                 /OCGs \OBJ@OCGs
9529                 /Category[/View]%
9530             >>%
9531             <<%
9532                 /Event/Print%
9533                 /OCGs \OBJ@OCGs
9534                 /Category[/Print]%
9535             >>%
9536             <<%
9537                 /Event/Export%
9538                 /OCGs \OBJ@OCGs
9539                 /Category[/Print]%

```

```

9540         >>%
9541     ]%
9542     >>%
9543     >>%
9544 }%
9545 \begingroup
9546 \edef\x{\endgroup
9547 \pdfpageresources{%
9548 \the\pdfpageresources
9549 /Properties<<%
9550 /OCView \OBJ@OCG@view
9551 /OCPrint \OBJ@OCG@print
9552 >>%
9553 }%
9554 }%
9555 \x
9556 }%
9557 \Hy@AtBeginDocument{%
9558 \def\Hy@colorlink#1{%
9559 \begingroup
9560 \ifHy@ocgcolorlinks
9561 \def\Hy@ocgcolor{#1}%
9562 \setbox0=\hbox\bgroup\color@begingroup
9563 \else
9564 \HyColor@UseColor#1%
9565 \fi
9566 }%
9567 \def\Hy@endcolorlink{%
9568 \ifHy@ocgcolorlinks
9569 \color@endgroup\egroup
9570 \mbox{%
9571 \pdfliteral page{/OC/OCPrint BDC}%
9572 \rlap{\copy0}%
9573 \pdfliteral page{EMC/OC/OCView BDC}%
9574 \begingroup
9575 \expandafter\HyColor@UseColor\Hy@ocgcolor
9576 \box0 %
9577 \endgroup
9578 \pdfliteral page{EMC}%
9579 }%
9580 \fi
9581 \endgroup
9582 }%
9583 }%
9584 \else
9585 \Hy@DisableOption{ocgcolorlinks}%
9586 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

9587 \def\setpdfinkmargin#1{%

```

```

9588 \begingroup
9589 \setlength{\dimen@}{#1}%
9590 \expandafter\endgroup
9591 \expandafter\pdfinkmargin\the\dimen@\relax
9592 }
9593 \ifx\pdfstartlink\@undefined% less than version 14
9594 \let\pdfstartlink\pdfannotlink
9595 \let\pdfinkmargin\@tempdima
9596 \let\pdfxform\pdfform
9597 \let\pdfastxform\pdfastform
9598 \let\pdfrefxform\pdfrefform
9599 \else
9600 \pdfinkmargin1pt %
9601 \fi

```

First set up the default linking

```

9602 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9603 \Hy@WrapperDef\new@pdfink#1{%
9604 \ifhmode
9605 \@savs\spacefactor
9606 \fi
9607 \Hy@SaveLastskip
9608 \Hy@VerboseAnchor{#1}%
9609 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9610 \Hy@DestName\Hy@pstringDest\@pdfview
9611 \Hy@RestoreLastskip
9612 \ifhmode
9613 \spacefactor\@savs
9614 \fi
9615 }
9616 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest` name in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

9617 \def\Hy@DestName#1#2{%
9618 \pdfdest name{#1}#2\relax
9619 }

```

Now the links; the interesting part here is the set of attributes which define how the link looks. We probably want to add a border and color it, but there are other choices. This directly translates to PDF code, so consult the manual for how to change this. We will add an interface at some point.

```

9620 \providecommand*\@pdfborder{0 0 1}
9621 \providecommand*\@pdfborderstyle{}
9622 \def\Hy@undefinedname{UNDEFINED}
9623 \def\find@pdfink#1#2{%
9624 \leavevmode
9625 \protected@edef\Hy@testname{#2}%

```

```

9626 \ifx\Hy@testname\@empty
9627   \Hy@Warning{%
9628     Empty destination name,\MessageBreak
9629     using '\Hy@undefinedname'%
9630   }%
9631   \let\Hy@testname\Hy@undefinedname
9632 \else
9633   \Hy@pstringdef\Hy@testname{%
9634     \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9635   }%
9636 \fi
9637 \Hy@StartlinkName{%
9638   \ifHy@pdfa /F 4\fi
9639   \Hy@setpdfborder
9640   \ifx\@pdfhighlight\@empty
9641   \else
9642     /H\@pdfhighlight
9643   \fi
9644   \ifx\CurrentBorderColor\relax
9645   \else
9646     /C\CurrentBorderColor]%
9647   \fi
9648 } \Hy@testname
9649 \expandafter\Hy@colorlink\csname @#1color\endcsname
9650 }
9651 \def\Hy@StartlinkName#1#2{%
9652   \pdfstartlink attr{#1}goto name{#2}\relax
9653 }
9654 \def\close@pdflink{%
9655   \Hy@endcolorlink
9656   \Hy@VerboseLinkStop
9657   \pdfendlink
9658 }
9659 \def\hyper@anchor#1{%
9660   \new@pdflink{#1}\anchor@spot\pdf@endanchor
9661 }
9662 \def\hyper@anchorstart#1{%
9663   \new@pdflink{#1}%
9664   \Hy@activeanchortrue
9665 }
9666 \def\hyper@anchorend{%
9667   \pdf@endanchor
9668   \Hy@activeanchorfalse
9669 }
9670 \def\hyper@linkstart#1#2{%
9671   \Hy@VerboseLinkStart{#1}{#2}%
9672   \ltx@ifundefined{@#1bordercolor}{%
9673     \let\CurrentBorderColor\relax
9674   }{%
9675     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```



```

9676 }%
9677 \find@pdfink{#1}{#2}%
9678 }
9679 \def\hyper@linkend{\close@pdfink}
9680 \def\hyper@link#1#2#3{%
9681 \Hy@VerboseLinkStart{#1}{#2}%
9682 \ltx@ifundefined{@#1bordercolor}{%
9683 \let\CurrentBorderColor\relax
9684 }{%
9685 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9686 }%
9687 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9688 \close@pdfink
9689 }
9690 \let\CurrentBorderColor\@linkbordercolor
9691 \def\hyper@linkurl#1#2{%
9692 \begingroup
9693 \Hy@pstringdef\Hy@pstringURI{#2}%
9694 \hyper@chars
9695 \leavevmode
9696 \pdfstartlink
9697 attr{%
9698 \Hy@setpdfborder
9699 \ifx\@pdfhighlight\@empty
9700 \else
9701 /H\@pdfhighlight
9702 \fi
9703 \ifx\@urlbordercolor\relax
9704 \else
9705 /C[\@urlbordercolor]%
9706 \fi
9707 }%
9708 user{%
9709 /Subtype/Link%
9710 \ifHy@pdfa /F 4\fi
9711 /A<<%
9712 /Type/Action%
9713 /S/URI%
9714 /URI(\Hy@pstringURI)%
9715 \ifHy@href@ismap
9716 /IsMap true%
9717 \fi
9718 \Hy@href@nextactionraw
9719 >>%
9720 }%
9721 \relax
9722 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9723 \close@pdfink
9724 \endgroup
9725 }

```

```

9726 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9727   \begingroup
9728   \def\Hy@pstringF{#2}%
9729   \Hy@CleanupFile\Hy@pstringF
9730   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9731   \Hy@pstringdef\Hy@pstringD{#3}%
9732   \Hy@MakeRemoteAction
9733   \leavevmode
9734   \pdfstartlink
9735     attr{%
9736       \Hy@setpdfborder
9737       \ifx\@pdfhighlight\@empty
9738       \else
9739         /H\@pdfhighlight
9740       \fi
9741       \ifx\@filebordercolor\relax
9742       \else
9743         /C[\@filebordercolor]%
9744       \fi
9745     }%
9746     user {%
9747       /Subtype/Link%
9748       \ifHy@pdfa /F 4\fi
9749       /A<<%
9750       /F(\Hy@pstringF)%
9751       /S/GoToR%
9752       \Hy@SetNewWindow

```

If #3 is empty, page 0; if its a number, Page number, otherwise a named destination.

```

\afterassignment\xxx\count@=0\foo!%

```

```

\def\xxx#1!{%
  \ifx\xxx#1\xxx
    foo was an integer
  \else
    it wasnt
  \fi}

```

```

9753   \ifx\#3\%
9754     /D[\Hy@href@page\@pdfremotestartview]%
9755   \else
9756     /D(\Hy@pstringD)%
9757   \fi
9758   \Hy@href@nextactionraw
9759   >>%
9760 }%
9761 \relax
9762 \Hy@colorlink\@filecolor#1\Hy@xspace@end

```

```

9763 \close@pdfink
9764 \endgroup
9765 }
9766 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text linkname
9767 \begingroup
9768 \Hy@pstringdef\Hy@pstringF{#1}%
9769 \Hy@pstringdef\Hy@pstringP{#3}%
9770 \leavevmode
9771 \pdfstartlink
9772 attr{%
9773 \Hy@setpdfborder
9774 \ifx\@pdfhighlight\@empty
9775 \else
9776 /H\@pdfhighlight
9777 \fi
9778 \ifx\@runbordercolor\relax
9779 \else
9780 /C[\@runbordercolor]%
9781 \fi
9782 }%
9783 user {%
9784 /Subtype/Link%
9785 \ifHy@pdfa /F 4\fi
9786 /A<<%
9787 /F(\Hy@pstringF)%
9788 /S/Launch%
9789 \Hy@SetNewWindow
9790 \ifx\\#3\\%
9791 \else
9792 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9793 \fi
9794 \Hy@href@nextactionraw
9795 >>%
9796 }%
9797 \relax
9798 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9799 \close@pdfink
9800 \endgroup
9801 }

```

\@pdfproducer

```

9802 \ifx\@pdfproducer\relax
9803 \begingroup\expandafter\expandafter\expandafter\endgroup
9804 \expandafter\ifx\csname luatexversion\endcsname\relax
9805 \def\@pdfproducer{pdfTeX}%
9806 \ifx\TeXversion\@undefined
9807 \else
9808 \ifx\TeXversion\relax
9809 \else
9810 \ifnum\TeXversion>0 %

```

```

9811     \def\@pdfproducer{pdfTeX}%
9812     \fi
9813     \fi
9814     \fi
9815     \ifx\pdfTeXversion\@undefined
9816     \else
9817     \ifnum\pdfTeXversion<100 %
9818     \edef\@pdfproducer{%
9819     \@pdfproducer
9820     \the\pdfTeXversion.\pdfTeXrevision
9821     }%
9822     \else
9823     \ifnum\pdfTeXversion<130 %
9824     \edef\@pdfproducer{%
9825     \@pdfproducer-%
9826     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9827     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9828     \pdfTeXrevision
9829     }%
9830     \else
9831     \ifnum\pdfTeXversion<140 %
9832     \else
9833     \def\@pdfproducer{pdfTeX}%
9834     \fi
9835     \edef\@pdfproducer{%
9836     \@pdfproducer-%
9837     \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9838     \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9839     \pdfTeXrevision
9840     }%
9841     \fi
9842     \fi
9843     \fi
9844     \else
9845     \begingroup
9846     \count@=\luaTeXversion
9847     \divide\count@ by 100 %
9848     \edef\x{\the\count@}%
9849     \count@=-\x\relax
9850     \multiply\count@ by 100 %
9851     \advance\count@ by \luaTeXversion
9852     \edef\x{\endgroup
9853     \def\noexpand\@pdfproducer{%
9854     LuaTeX-\x.\the\count@.\luaTeXrevision
9855     }%
9856     }%
9857     \x
9858     \fi
9859     \fi

```

\PDF@SetupDox

```
9860 \def\PDF@SetupDoc{%
9861   \ifx\@pdfpagescrop\@empty
9862   \else
9863     \edef\process@me{%
9864       \pdfpagesattr={%
9865         /CropBox[\@pdfpagescrop]%
9866         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9867       \else
9868         ^^J\the\pdfpagesattr
9869       \fi
9870     }%
9871   }%
9872   \process@me
9873 \fi
9874 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9875 \pdfcatalog{%
9876   /PageMode/\@pdfpagemode
9877   \ifx\@baseurl\@empty
9878   \else
9879     /URI<</Base(\Hy@pstringB)>>%
9880   \fi
9881 }%
9882 \ifx\@pdfstartpage\@empty
9883 \else
9884   \ifx\@pdfstartview\@empty
9885   \else
9886     openaction goto page\@pdfstartpage{\@pdfstartview}%
9887   \fi
9888 \fi
9889 \edef\Hy@temp{%
9890   \ifHy@pdftoolbar\else /HideToolbar true\fi
9891   \ifHy@pdfmenubar\else /HideMenubar true\fi
9892   \ifHy@pdfwindowui\else /HideWindowUI true\fi
9893   \ifHy@pdffitwindow /FitWindow true\fi
9894   \ifHy@pdfcenterwindow /CenterWindow true\fi
9895   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9896   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9897   \Hy@UseNameKey{Direction}\@pdfdirection
9898   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9899   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9900   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9901   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9902   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9903   \Hy@UseNameKey{Duplex}\@pdfduplex
9904   \ifx\@pdfpicktraybypdfsize\@empty
9905   \else
9906     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9907   \fi
```

```

9908 \ifx\@pdfprintpagerange\@empty
9909 \else
9910 /PrintPageRange[\@pdfprintpagerange]%
9911 \fi
9912 \ifx\@pdfnumcopies\@empty
9913 \else
9914 /NumCopies \@pdfnumcopies
9915 \fi
9916 }%
9917 \pdfcatalog{%
9918 \ifx\Hy@temp\@empty
9919 \else
9920 /ViewerPreferences<<\Hy@temp>>%
9921 \fi
9922 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9923 \ifx\@pdflang\relax
9924 \else
9925 /Lang(\@pdflang)%
9926 \fi
9927 }%
9928 }

```

\PDF@FinishDoc

```

9929 \def\PDF@FinishDoc{%
9930 \pdf@ifdraftmode{ }{%
9931 \Hy@UseMaketitleInfos
9932 \HyInfo@GenerateAddons
9933 \pdfinfo{%
9934 /Author(\@pdfauthor)%
9935 /Title(\@pdftitle)%
9936 /Subject(\@pdfsubject)%
9937 /Creator(\@pdfcreator)%
9938 \ifx\@pdfcreationdate\@empty
9939 \else
9940 /CreationDate(\@pdfcreationdate)%
9941 \fi
9942 \ifx\@pdfmoddate\@empty
9943 \else
9944 /ModDate(\@pdfmoddate)%
9945 \fi
9946 \ifx\@pdfproducer\relax
9947 \else
9948 /Producer(\@pdfproducer)%
9949 \fi
9950 /Keywords(\@pdfkeywords)%
9951 \ifx\@pdftrapped\@empty
9952 \else
9953 /Trapped/\@pdftrapped
9954 \fi
9955 \HyInfo@Addons

```

```

9956 }%
9957 }%
9958 \Hy@DisableOption{pdfauthor}%
9959 \Hy@DisableOption{pdftitle}%
9960 \Hy@DisableOption{pdfsubject}%
9961 \Hy@DisableOption{pdfcreator}%
9962 \Hy@DisableOption{pdfcreationdate}%
9963 \Hy@DisableOption{pdfmoddate}%
9964 \Hy@DisableOption{pdfproducer}%
9965 \Hy@DisableOption{pdfkeywords}%
9966 \Hy@DisableOption{pdftrapped}%
9967 \Hy@DisableOption{pdfinfo}%
9968 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

9969 \def\hyper@pagetransition{%
9970   \ifx\@pdfpagetransition\relax
9971   \else
9972     \expandafter\Hy@RemoveTransPageAttr
9973     \the\pdfpageattr^^J/Trans{}}>>\END
9974   \ifx\@pdfpagetransition\@empty
9975   \else
9976     \edef\@processme{%
9977       \global\pdfpageattr{%
9978         \the\pdfpageattr
9979         ^^J/Trans << /S /\@pdfpagetransition\space >>%
9980       }%
9981     }%
9982     \@processme
9983   \fi
9984 \fi
9985 }

```

`\Hy@RemoveTransPageAttr` Macro `\Hy@RemoveTransPageAttr` removes a `/Trans` entry from `\pdfpageattr`. It is called with the end marker `^^J/Trans{}}>>\END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Trans` object or the end marker.

```

9986 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9987   \ifx\\#2\\%
9988     \global\pdfpageattr{#1}%
9989   \else
9990     \Hy@RemoveTransPageAttr#1#4\END
9991   \fi
9992 }

```

`\hyper@pageduration` `\@pdfpageduration` is initialized with `\relax`. So it indicates, if option `pdfpageduration` is used. First previous `/Dur` entries are removed. If a new `/Dur` key

exists, it is appended to `\pdfpageattr`.

```

9993 \def\hyper@pageduration{%
9994   \ifx\@pdfpageduration\relax
9995   \else
9996     \expandafter
9997     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9998   \ifx\@pdfpageduration\@empty
9999   \else
10000     \edef\@processme{%
10001       \global\pdfpageattr{%
10002         \the\pdfpageattr
10003         ^^J/Dur \@pdfpageduration\space
10004       }%
10005     }%
10006     \@processme
10007   \fi
10008 \fi
10009 }

```

`\Hy@RemoveDurPageAttr` Macro `\Hy@RemoveDurPageAttr` removes a `/Dur` entry from `\pdfpageattr`. It is called with the end marker `^^J/Dur{} \END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Dur` object or the end marker.

```

10010 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
10011   \ifx\#2\%
10012     \global\pdfpageattr{#1}%
10013   \else
10014     \Hy@RemoveDurPageAttr#1#4\END
10015   \fi
10016 }

```

`\hyper@pagehidden` The boolean value of the key `/Hid` is stored in switch `\ifHy@pdfpagehidden`. First previous `/Hid` entries are removed, then the new one is appended, if the value is true (the PDF default is false).

```

10017 \def\hyper@pagehidden{%
10018   \ifHy@useHidKey
10019   \expandafter
10020   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
10021   \ifHy@pdfpagehidden
10022     \edef\@processme{%
10023       \global\pdfpageattr{%
10024         \the\pdfpageattr
10025         ^^J/Hid true % SPACE
10026       }%
10027     }%
10028     \@processme
10029   \fi
10030 \fi
10031 }

```


`\Hy@RemoveHidPageAttr` Macro `\Hy@RemoveHidPageAttr` removes a `/Hid` entry from `\pdfpageattr`. It is called with the end marker `^^J/Hid{ } \END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument `#2` and shows, whether the parameter text catches a really `/Hid` object or the end marker.

```

10032 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
10033   \ifx\#2\%
10034     \global\pdfpageattr{#1}%
10035   \else
10036     \Hy@RemoveHidPageAttr#1#4\END
10037   \fi
10038 }

10039 \pdf@ifdraftmode{ }{%
10040   \g@addto@macro\Hy@EveryPageHook{%
10041     \hyper@pagetransition
10042     \hyper@pageduration
10043     \hyper@pagehidden
10044   }%
10045 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

10046 </pdfTeX>
10047 <*pdfTeX | xetex>
10048 \Hy@AtBeginDocument{%
10049   \ifHy@setpagesize
10050     \expandafter\@firstofone
10051   \else
10052     \expandafter\@gobble
10053   \fi
10054 }%
10055 \ifclassloaded{seminar}{%
10056 <*pdfTeX>
10057   \setlength{\pdfhorigin}{1truein}%
10058   \setlength{\pdfvorigin}{1truein}%
10059 </pdfTeX>
10060   \ifportrait
10061     \ifdim\paperwidth=\z@
10062     \else
10063       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
10064     \fi
10065     \ifdim\paperheight=\z@
10066     \else
10067       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
10068     \fi
10069   \else
10070     \ifdim\paperheight=\z@
10071     \else
10072       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
10073     \fi

```

```

10074 \ifdim\paperwidth=\z@
10075 \else
10076 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
10077 \fi
10078 \fi
10079 }{%
10080 \ltx@ifundefined{stockwidth}{%
10081 \ifdim\paperwidth>\z@
10082 \setlength{\pdfpagewidth}{\paperwidth}%
10083 \fi
10084 \ifdim\paperheight>\z@
10085 \setlength{\pdfpageheight}{\paperheight}%
10086 \fi
10087 }{%
10088 \ifdim\stockwidth>\z@
10089 \setlength{\pdfpagewidth}{\stockwidth}%
10090 \fi
10091 \ifdim\stockheight>\z@
10092 \setlength{\pdfpageheight}{\stockheight}%
10093 \fi
10094 }%
10095 }%
10096 }%
10097 \Hy@DisableOption{setpagesize}%
10098 }
10099 </pdftex | xetex>
10100 <*pdftex>
10101 \def\Acrobatmenu#1#2{%
10102 \Hy@Acrobatmenu{#1}{#2}{%
10103 \leavevmode
10104 \EdefEscapeName\Hy@temp@menu{#1}%
10105 \pdfstartlink
10106 attr{%
10107 \Hy@setpdfborder
10108 \ifx\@pdfhighlight\@empty
10109 \else
10110 /H\@pdfhighlight
10111 \fi
10112 \ifx\@menubordercolor\relax
10113 \else
10114 /C[\@menubordercolor]%
10115 \fi
10116 }%
10117 user{%
10118 /Subtype/Link%
10119 \ifHy@pdfa /F 4\fi
10120 /A<%
10121 /S/Named%
10122 /N/\Hy@temp@menu
10123 \Hy@href@nextactionraw

```

```

10124      >>%
10125    }%
10126    \relax
10127    \Hy@colorlink\@menucolor#2%
10128    \close@pdflink
10129  }%
10130 }

```

47.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdfTeX—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

```

10131 \def\Hy@FixNotFirstPage{%
10132   \gdef\Hy@FixNotFirstPage{%
10133     \setbox\AtBeginShipoutBox=\hbox{%
10134       \copy\AtBeginShipoutBox
10135     }%
10136   }%
10137 }
10138 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
10139 }{%
10140   \AtBeginShipout{\Hy@FixNotFirstPage}%
10141 }
10142 \</pdfTeX>

```

47.3 hypertex

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

href: `html:`

name: `html:`

end: `html:`

image: `html:`

base_name: `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the T_EX file — the T_EX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the *name* command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that `'` characters should be escaped with a backslash (`\`), and if it looks like a URL name it may cause problems.

```

10143 <*hypertext>
10144 \providecommand*{\XR@ext}{dvi}
10145 \let\PDF@FinishDoc\ltx@empty
10146 \def\PDF@SetupDoc{%
10147   \ifx\@baseurl\@empty
10148   \else
10149     \special{html:<base href="\@baseurl">}%
10150   \fi
10151 }
10152 \Hy@WrapperDef\hyper@anchor#1{%
10153   \Hy@SaveLastskip
10154   \Hy@VerboseAnchor{#1}%
10155   \begingroup
10156     \let\protect=\string
10157     \hyper@chars
10158     \special{html:<a name=%
10159       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10160   \endgroup
10161   \Hy@activeanchortrue
10162   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10163   \special{html:</a>}%
10164   \Hy@activeanchorfalse
10165   \Hy@RestoreLastskip
10166 }
10167 \Hy@WrapperDef\hyper@anchorstart#1{%
10168   \Hy@SaveLastskip
10169   \Hy@VerboseAnchor{#1}%
10170   \begingroup
10171     \hyper@chars
10172     \special{html:<a name=%

```

```

10173     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10174 \endgroup
10175 \Hy@activeanchortrue
10176 }
10177 \def\hyper@anchorend{%
10178   \special{html:</a>}%
10179   \Hy@activeanchorfalse
10180   \Hy@RestoreLastskip
10181 }
10182 \def\@urltype{url}
10183 \def\hyper@linkstart#1#2{%
10184   \Hy@VerboseLinkStart{#1}{#2}%
10185   \expandafter\Hy@colorlink\csname @#1color\endcsname
10186   \def\Hy@tempa{#1}%
10187   \ifx\Hy@tempa\@urltype
10188     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10189   \else
10190     \begingroup
10191       \hyper@chars
10192       \special{html:<a href=%
10193         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
10194     \endgroup
10195   \fi
10196 }
10197 \def\hyper@linkend{%
10198   \special{html:</a>}%
10199   \Hy@endcolorlink
10200 }
10201 \def\hyper@linkfile#1#2#3{%
10202   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10203 }
10204 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why \LaTeX constructs make this totally foul up, and make us revert to basic \TeX . I do not know.

```

10205 \leavevmode
10206 \ifHy@raiselinks
10207   \Hy@SaveSpaceFactor
10208   \Hy@SaveSavedSpaceFactor
10209   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10210   \Hy@RestoreSavedSpaceFactor
10211   \@linkdim\dp\@tempboxa
10212   \lower\@linkdim\hbox{%
10213     \hyper@chars
10214     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10215   }%
10216   \Hy@colorlink\@urlcolor
10217   \Hy@RestoreSpaceFactor
10218   #1%

```

```

10219 \Hy@SaveSpaceFactor
10220 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

10221 \advance\@linkdim by -6.5\p@
10222 \raise\@linkdim\hbox{\special{html:</a>}}}%
10223 \Hy@endcolorlink
10224 \Hy@RestoreSpaceFactor
10225 \else
10226 \begingroup
10227 \hyper@chars
10228 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
10229 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10230 \special{html:</a>}}}%
10231 \Hy@endcolorlink
10232 \endgroup
10233 \fi
10234 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

10235 \def\hyper@link#1#2#3{%
10236 \Hy@VerboseLinkStart{#1}{#2}%
10237 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
10238 }

10239 \def\hyper@image#1#2{%
10240 \begingroup
10241 \hyper@chars
10242 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
10243 \endgroup
10244 }
10245 </hypertex>
10246 <*dviwindo>

```

47.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

10247 \providecommand*{\XR@ext}{dvi}
10248 \providecommand*{\wwwbrowser{c:\string\netscape\string\netscape}
10249 \Hy@WrapperDef\hyper@anchor#1{%
10250   \Hy@SaveLastskip
10251   \Hy@VerboseAnchor{#1}%
10252   \begingroup
10253     \let\protect=\string
10254     \special{mark: #1}%
10255   \endgroup
10256   \Hy@activeanchortrue
10257   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10258   \Hy@activeanchorfalse
10259   \Hy@RestoreLastskip
10260 }
10261 \Hy@WrapperDef\hyper@anchorstart#1{%
10262   \Hy@SaveLastskip
10263   \Hy@VerboseAnchor{#1}%
10264   \special{mark: #1}%
10265   \Hy@activeanchortrue
10266 }
10267 \def\hyper@anchorend{%
10268   \Hy@activeanchorfalse
10269   \Hy@RestoreLastskip
10270 }
10271 \def\hyper@linkstart#1#2{%
10272   \Hy@VerboseLinkStart{#1}{#2}%
10273   \expandafter\Hy@colorlink\csname @#1color\endcsname
10274   \special{button: %
10275     10000000 %
10276     \number\baselineskip\space
10277     #2%
10278   }%
10279 }
10280 \def\hyper@linkend{%
10281   \Hy@endcolorlink
10282 }
10283 \def\hyper@link#1#2#3{%
10284   \Hy@VerboseLinkStart{#1}{#2}%
10285   \leavevmode
10286   \ifHy@raiselinks
10287     \Hy@SaveSpaceFactor
10288     \Hy@SaveSavedSpaceFactor
10289     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10290     \Hy@RestoreSavedSpaceFactor
10291     \@linkdim\dp\@tempboxa
10292     \lower\@linkdim\hbox{%
10293       \special{button: %
10294         \number\wd\@tempboxa\space
10295         \number\ht\@tempboxa\space
10296         #2%

```

```

10297 }%
10298 \expandafter\Hy@colorlink\csname @#1color\endcsname
10299 \Hy@RestoreSpaceFactor
10300 #3\Hy@xspace@end
10301 \Hy@SaveSpaceFactor
10302 \Hy@endcolorlink
10303 }%
10304 \@linkdim\ht\@tempboxa
10305 \advance\@linkdim by -6.5\p@
10306 \raise\@linkdim\hbox{}%
10307 \Hy@RestoreSpaceFactor
10308 \else
10309 \special{button: %
10310 \number\wd\@tempboxa\space
10311 \number\ht\@tempboxa\space
10312 #2%
10313 }%
10314 \expandafter\Hy@colorlink\csname @#1color\endcsname
10315 #3\Hy@xspace@end
10316 \Hy@endcolorlink
10317 \fi
10318 }
10319 \def\hyper@linkurl#1#2{%
10320 \begingroup
10321 \hyper@chars
10322 \leavevmode
10323 \ifHy@raiselinks
10324 \Hy@SaveSpaceFactor
10325 \Hy@SaveSavedSpaceFactor
10326 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10327 \Hy@RestoreSavedSpaceFactor
10328 \@linkdim\dp\@tempboxa
10329 \lower\@linkdim\hbox{%
10330 \special{button: %
10331 \number\wd\@tempboxa\space
10332 \number\ht\@tempboxa\space
10333 launch: \wwwbrowser\space
10334 #2%
10335 }%
10336 \Hy@colorlink\@urlcolor
10337 \Hy@RestoreSpaceFactor
10338 #1\Hy@xspace@end
10339 \Hy@SaveSpaceFactor
10340 \Hy@endcolorlink
10341 }%
10342 \@linkdim\ht\@tempboxa
10343 \advance\@linkdim by -6.5\p@
10344 \raise\@linkdim\hbox{}%
10345 \Hy@RestoreSpaceFactor
10346 \else

```



```

10347 \special{button: %
10348 \number\wd\@tempboxa\space
10349 \number\ht\@tempboxa\space
10350 launch: \wwwbrowser\space
10351 #2%
10352 }%
10353 \Hy@colorlink\@urlcolor
10354 #1\Hy@xspace@end
10355 \Hy@endcolorlink
10356 \fi
10357 \endgroup
10358 }
10359 \def\hyper@linkfile#1#2#3{%
10360 \begingroup
10361 \hyper@chars
10362 \leavevmode
10363 \ifHy@raiselinks
10364 \Hy@SaveSpaceFactor
10365 \Hy@SaveSavedSpaceFactor
10366 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10367 \Hy@RestoreSavedSpaceFactor
10368 \@linkdim\dp\@tempboxa
10369 \lower\@linkdim\hbox{%
10370 \special{button: %
10371 \number\wd\@tempboxa\space
10372 \number\ht\@tempboxa\space
10373 #3,%
10374 file: #2%
10375 }%
10376 \Hy@colorlink\@filecolor
10377 \Hy@RestoreSpaceFactor
10378 #1\Hy@xspace@end
10379 \Hy@SaveSpaceFactor
10380 \Hy@endcolorlink
10381 }%
10382 \@linkdim\ht\@tempboxa
10383 \advance\@linkdim by -6.5\p@
10384 \raise\@linkdim\hbox{}%
10385 \Hy@RestoreSpaceFactor
10386 \else
10387 \special{button: %
10388 \number\wd\@tempboxa\space
10389 \number\ht\@tempboxa\space
10390 #3,%
10391 file: #2%
10392 }%
10393 \Hy@colorlink\@filecolor
10394 #1\Hy@xspace@end
10395 \Hy@endcolorlink
10396 \fi

```

```

10397 \endgroup
10398 }
10399 \ifx\@pdfproducer\relax
10400 \def\@pdfproducer{dviwindo + Distiller}%
10401 \fi
10402 \HyInfo@AddonUnsupportedtrue
10403 \def\PDF@FinishDoc{%
10404 \Hy@UseMaketitleInfos
10405 \HyInfo@TrappedUnsupported
10406 \special{PDF: Keywords \@pdfkeywords}%
10407 \special{PDF: Title \@pdftitle}%
10408 \special{PDF: Creator \@pdfcreator}%
10409 \ifx\@pdfcreationdate\@empty
10410 \else
10411 \special{PDF: CreationDate \@pdfcreationdate}%
10412 \fi
10413 \ifx\@pdfmoddate\@empty
10414 \else
10415 \special{PDF: ModDate \@pdfmoddate}%
10416 \fi
10417 \special{PDF: Author \@pdfauthor}%
10418 \ifx\@pdfproducer\relax
10419 \else
10420 \special{PDF: Producer \@pdfproducer}%
10421 \fi
10422 \special{PDF: Subject \@pdfsubject}%
10423 \Hy@DisableOption{pdfauthor}%
10424 \Hy@DisableOption{pdftitle}%
10425 \Hy@DisableOption{pdfsubject}%
10426 \Hy@DisableOption{pdfcreator}%
10427 \Hy@DisableOption{pdfcreationdate}%
10428 \Hy@DisableOption{pdfmoddate}%
10429 \Hy@DisableOption{pdfproducer}%
10430 \Hy@DisableOption{pdfkeywords}%
10431 \Hy@DisableOption{pdftrapped}%
10432 \Hy@DisableOption{pdfinfo}%
10433 }
10434 \def\PDF@SetupDoc{%
10435 \ifx\@baseurl\@empty
10436 \else
10437 \special{PDF: Base \@baseurl}%
10438 \fi
10439 \ifx\@pdfpagescrop\@empty\else
10440 \special{PDF: BBox \@pdfpagescrop}%
10441 \fi
10442 \def\Hy@temp{}%
10443 \ifx\@pdfstartpage\@empty
10444 \else
10445 \ifx\@pdfstartview\@empty
10446 \else

```

```

10447 \edef\Hy@temp{%
10448   ,Page=\@pdfstartpage
10449   ,View=\@pdfstartview
10450 }%
10451 \fi
10452 \fi
10453 \edef\Hy@temp{%
10454   \noexpand\pdfmark{%
10455     pdfmark=/DOCVIEW,%
10456     PageMode=/\@pdfpagemode
10457   }\Hy@temp
10458 }%
10459 }%
10460 \Hy@temp
10461 \ifx\@pdfpagescrop\@empty
10462 \else
10463   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10464 \fi
10465 \edef\Hy@temp{%
10466   \ifHy@pdftoolbar\else /HideToolbar true\fi
10467   \ifHy@pdfmenubar\else /HideMenubar true\fi
10468   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10469   \ifHy@pdffitwindow /FitWindow true\fi
10470   \ifHy@pdfcenterwindow /CenterWindow true\fi
10471   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10472   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10473   \Hy@UseNameKey{Direction}\@pdfdirection
10474   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10475   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10476   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10477   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10478   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10479   \Hy@UseNameKey{Duplex}\@pdfduplex
10480   \ifx\@pdfpicktraybypdfsize\@empty
10481   \else
10482     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10483   \fi
10484   \ifx\@pdfprintpagerange\@empty
10485   \else
10486     /PrintPageRange[\@pdfprintpagerange]%
10487   \fi
10488   \ifx\@pdfnumcopies\@empty
10489   \else
10490     /NumCopies \@pdfnumcopies
10491   \fi
10492 }%
10493 \pdfmark{pdfmark=/PUT,%
10494   Raw={%
10495     \string{Catalog}\string}<<%
10496     \ifx\Hy@temp\@empty

```

```

10497     \else
10498         /ViewerPreferences<<\Hy@temp>>%
10499     \fi
10500     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10501     \ifx\@pdflang\relax
10502     \else
10503         /Lang(\@pdflang)%
10504     \fi
10505     >>%
10506 }%
10507 }%
10508 }
10509 </dviwindo>
10510 <*dvipdfm | xetex>

```

47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10511 \providecommand*\XR@ext}{pdf}
10512 \Hy@setbreaklinks{true}
10513 \def\HyPat@ObjRef{%
10514   @[\ ]+}%
10515 }
10516 \newsavebox{\pdfm@box}
10517 \def\@pdfm@mark#1{\special{pdf:#1}}
10518 \Hy@WrapperDef\@pdfm@dest#1{%
10519   \Hy@SaveLastskip
10520   \Hy@VerboseAnchor{#1}%
10521   \begingroup
10522     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10523     \def\x{XYZ}%
10524     \ifx\x\@pdfview
10525       \def\x{XYZ @xpos @ypos null}%
10526     \else
10527       \def\x{FitH}%
10528       \ifx\x\@pdfview
10529         \def\x{FitH @ypos}%
10530       \else
10531         \def\x{FitBH}%
10532         \ifx\x\@pdfview
10533           \def\x{FitBH @ypos}%
10534         \else
10535           \def\x{FitV}%
10536           \ifx\x\@pdfview
10537             \def\x{FitV @xpos}%
10538           \else
10539             \def\x{FitBV}%
10540             \ifx\x\@pdfview
10541               \def\x{FitBV @xpos}%

```

```

10542         \else
10543             \def\x{Fit}%
10544             \ifx\x\@pdfview
10545                 \let\x\@pdfview
10546             \else
10547                 \def\x{FitB}%
10548                 \ifx\x\@pdfview
10549                     \let\x\@pdfview
10550             \else
10551                 \def\x{FitR}%
10552                 \ifx\x\@pdfview
10553                     \Hy@Warning{'pdfview=FitR' is not supported}%
10554                     \def\x{XYZ @xpos @ypos null}%
10555             \else
10556                 \@onelevel@sanitize\@pdfview
10557                 \Hy@Warning{%
10558                     Unknown value '\@pdfview' for pdfview%
10559                 }%
10560                 \def\x{XYZ @xpos @ypos null}%
10561             \fi
10562         \fi
10563     \fi
10564 \fi
10565 \fi
10566 \fi
10567 \fi
10568 \fi
10569 \@pdfm@mark{dest (\Hy@pstringDest) [thispage /x]}%
10570 \endgroup
10571 \Hy@RestoreLastskip
10572 }
10573 \providecommand*\@pdfview{XYZ}
10574 \providecommand*\@pdfborder{0 0 1}
10575 \providecommand*\@pdfborderstyle{}
10576 \def\hyper@anchor#1{%
10577     \@pdfm@dest{#1}%
10578 }
10579 \def\hyper@anchorstart#1{%
10580     \Hy@activeanchortrue
10581     \@pdfm@dest{#1}%
10582 }
10583 \def\hyper@anchorend{%
10584     \Hy@activeanchorfalse
10585 }
10586 \newcounter{Hy@AnnotLevel}
10587 \ifHy@ocgcolorlinks
10588     \def\OBJ@OCG@view{@OCG@view}%
10589     \@pdfm@mark{%
10590         obj \OBJ@OCG@view <<%

```

```

10591     /Type/OCG%
10592     /Name(View)%
10593     /Usage<<%
10594         /Print<<%
10595             /PrintState/OFF%
10596         >>%
10597         /View<<%
10598             /ViewState/ON%
10599         >>%
10600     >>%
10601 >>%
10602 }%
10603 \@pdfmark{close \OBJ@OCG@view}%
10604 \def\OBJ@OCG@print{\@OCG@print}%
10605 \@pdfmark{%
10606     obj \OBJ@OCG@print <<%
10607         /Type/OCG%
10608         /Name(Print)%
10609         /Usage<<%
10610             /Print<<%
10611                 /PrintState/ON%
10612             >>%
10613             /View<<%
10614                 /ViewState/OFF%
10615             >>%
10616         >>%
10617     >>%
10618 }%
10619 \@pdfmark{close \OBJ@OCG@print}%
10620 \def\OBJ@OCGs{\@OCGs}%
10621 \@pdfmark{%
10622     obj \OBJ@OCGs [%
10623         \OBJ@OCG@view\space\OBJ@OCG@print
10624     ]%
10625 }%
10626 \@pdfmark{close \OBJ@OCGs}%
10627 \@pdfmark{%
10628     put @catalog <<%
10629         /OCProperties<<%
10630             /OCGs \OBJ@OCGs
10631         /D<<%
10632             /OFF[\OBJ@OCG@print]%
10633             /AS[%
10634                 <<%
10635                     /Event/View%
10636                     /OCGs \OBJ@OCGs
10637                     /Category[/View]%
10638                 >>%
10639                 <<%
10640                     /Event/Print%

```

```

10641         /OCGs \OBJ@OCGs
10642         /Category[/Print]%
10643     >>%
10644     <<%
10645         /Event/Export%
10646         /OCGs \OBJ@OCGs
10647         /Category[/Print]%
10648     >>%
10649     ]%
10650     >>%
10651     >>%
10652     >>%
10653     }%
10654     \AtBeginShipout{%
10655         \setbox\AtBeginShipoutBox=\hbox{%
10656             \copy\AtBeginShipoutBox
10657             \@pdfm@mark{%
10658                 put @resources <<%
10659                     /Properties<<%
10660                     /OCView \OBJ@OCG@view
10661                     /OCPrint \OBJ@OCG@print
10662                 >>%
10663                 >>%
10664             }%
10665         }%
10666     }%
10667     \Hy@AtBeginDocument{%
10668         \def\Hy@colorlink#1{%
10669             \begingroup
10670             \ifHy@ocgcolorlinks
10671                 \def\Hy@ocgcolor{#1}%
10672                 \setbox0=\hbox\bgroup\color@begingroup
10673             \else
10674                 \HyColor@UseColor#1%
10675             \fi
10676         }%
10677         \def\Hy@endcolorlink{%
10678             \ifHy@ocgcolorlinks
10679                 \color@endgroup\egroup
10680             \mbox{%
10681                 \@pdfm@mark{content /OC/OCPrint BDC}%
10682                 \rlap{\copy0}%
10683                 \@pdfm@mark{content EMC/OC/OCView BDC}%
10684             \begingroup
10685                 \expandafter\HyColor@UseColor\Hy@ocgcolor
10686                 \box0 %
10687             \endgroup
10688             \@pdfm@mark{content EMC}%
10689         }%
10690     \fi

```

```

10691     \endgroup
10692   }%
10693 }%
10694 \else
10695   \Hy@DisableOption{ocgcolorlinks}%
10696 \fi

10697 \def\Hy@BeginAnnot#1{%
10698   \stepcounter{Hy@AnnotLevel}%
10699   \ifnum\value{Hy@AnnotLevel}=\@ne
10700     #1%
10701   \fi
10702 }
10703 \def\Hy@endAnnot{%
10704   \ifnum\value{Hy@AnnotLevel}=\@ne
10705     \Hy@endcolorlink
10706     \@pdfm@mark{eann}%
10707   \fi
10708   \addtocounter{Hy@AnnotLevel}\m@ne
10709 }

10710 \def\Hy@undefinedname{UNDEFINED}
10711 \def\hyper@linkstart#1#2{%
10712   \Hy@VerboseLinkStart{#1}{#2}%
10713   \leavevmode
10714   \Hy@BeginAnnot{%
10715     \protected@edef\Hy@testname{#2}%
10716     \ifx\Hy@testname\@empty
10717       \Hy@Warning{%
10718         Empty destination name,\MessageBreak
10719         using '\Hy@undefinedname'%
10720       }%
10721       \let\Hy@testname\Hy@undefinedname
10722     \else
10723       \Hy@pstringdef\Hy@testname{%
10724         \expandafter\HyperDestNameFilter\expandafter{%
10725           \Hy@testname
10726         }%
10727       }%
10728     \fi
10729     \@pdfm@mark{%
10730       bann<<%
10731       /Type/Annot%
10732       /Subtype/Link%
10733       \ifHy@pdfa /F 4\fi
10734       \Hy@setpdfborder
10735       \expandafter\ifx\csmname @#1bordercolor\endcsmname\relax
10736       \else
10737         /C[\csmname @#1bordercolor\endcsmname]%
10738       \fi
10739       /A<<%

```



```

10740      /S/GoTo%
10741      /D(\Hy@testname)%
10742      \Hy@href@nextactionraw
10743      >>%
10744      >>%
10745      }%
10746      \expandafter\Hy@colorlink\csname @#1color\endcsname
10747      }%
10748      }
10749      \def\hyper@linkend{\Hy@EndAnnot}%
10750      \def\hyper@link#1#2#3{%
10751      \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10752      }
10753      \def\hyper@linkfile#1#2#3{%
10754      \leavevmode
10755      \Hy@BeginAnnot{%
10756      \def\Hy@pstringF{#2}%
10757      \Hy@CleanupFile\Hy@pstringF
10758      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10759      \Hy@pstringdef\Hy@pstringD{#3}%
10760      \Hy@MakeRemoteAction
10761      \@pdfm@mark{%
10762      bann<<%
10763      /Type/Annot%
10764      /Subtype/Link%
10765      \ifHy@pdfa /F 4\fi
10766      \Hy@setpdfborder
10767      \ifx\@filebordercolor\relax
10768      \else
10769      /C[\@filebordercolor]%
10770      \fi
10771      /A<<%
10772      /S/GoToR%
10773      /F(\Hy@pstringF)%
10774      /D%
10775      \ifx\#3\%
10776      [\Hy@href@page\@pdfremotestartview]%
10777      \else
10778      (\Hy@pstringD)%
10779      \fi
10780      \Hy@SetNewWindow
10781      \Hy@href@nextactionraw
10782      >>%
10783      >>%
10784      }%
10785      \Hy@colorlink\@filecolor
10786      }%
10787      #1\Hy@xspace@end
10788      \Hy@EndAnnot
10789      }

```

```

10790 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
10791 \leavevmode
10792 \Hy@BeginAnnot{%
10793 \Hy@pstringdef\Hy@pstringF{#1}%
10794 \Hy@pstringdef\Hy@pstringP{#3}%
10795 \@pdfm@mark{%
10796 bann<<%
10797 /Type/Annot%
10798 /Subtype/Link%
10799 \ifHy@pdfa /F 4\fi
10800 \Hy@setpdfborder
10801 \ifx\@runbordercolor\relax
10802 \else
10803 /C[\@runbordercolor]%
10804 \fi
10805 /A<<%
10806 /F(\Hy@pstringF)%
10807 /S/Launch%
10808 \Hy@SetNewWindow
10809 \ifx\|#3\|
10810 \else
10811 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10812 \fi
10813 \Hy@href@nextactionraw
10814 >>%
10815 >>%
10816 }%
10817 \Hy@colorlink\@runcolor
10818 }%
10819 #2\Hy@xspace@end
10820 \Hy@endAnnot
10821 }
10822 \def\hyper@linkurl#1#2{%
10823 \leavevmode
10824 \Hy@BeginAnnot{%
10825 \Hy@pstringdef\Hy@pstringURI{#2}%
10826 \@pdfm@mark{%
10827 bann<<%
10828 /Type/Annot%
10829 /Subtype/Link%
10830 \ifHy@pdfa /F 4\fi
10831 \Hy@setpdfborder
10832 \ifx\@urlbordercolor\relax
10833 \else
10834 /C[\@urlbordercolor]%
10835 \fi
10836 /A<<%
10837 /S/URI%
10838 /URI(\Hy@pstringURI)%
10839 \ifHy@href@ismap

```

```

10840         /IsMap true%
10841     \fi
10842     \Hy@href@nextactionraw
10843     >>%
10844     >>%
10845     }%
10846     \Hy@colorlink\@urlcolor
10847 }%
10848 #1\Hy@xspace@end
10849 \Hy@endAnnot
10850 }
10851 \def\Acrobatmenu#1#2{%
10852 \Hy@Acrobatmenu{#1}{#2}{%
10853 \Hy@BeginAnnot{%
10854 \EdefEscapeName\Hy@temp@menu{#1}%
10855 \@pdfm@mark{%
10856 bann<<%
10857 /Type/Annot%
10858 /Subtype/Link%
10859 \ifHy@pdfa /F 4\fi
10860 \Hy@setpdfborder
10861 \ifx\@menubordercolor\relax
10862 \else
10863 /C[\@menubordercolor]%
10864 \fi
10865 /A<<%
10866 /S/Named%
10867 /N/\Hy@temp@menu
10868 \Hy@href@nextactionraw
10869 >>%
10870 >>%
10871 }%
10872 \Hy@colorlink\@menucolor
10873 }%
10874 #2\Hy@xspace@end
10875 \Hy@endAnnot
10876 }%
10877 }
10878 \ifx\@pdfproducer\relax
10879 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10880 \begingroup\expandafter\expandafter\expandafter\endgroup
10881 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10882 \else
10883 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10884 \fi
10885 \fi
10886 \def\PDF@FinishDoc{%
10887 \Hy@UseMaketitleInfos

```

```

10888 \HyInfo@GenerateAddons
10889 \@pdfm@mark{%
10890   docinfo<<%
10891     /Title(\@pdftitle)%
10892     /Subject(\@pdfsubject)%
10893     /Creator(\@pdfcreator)%
10894     \ifx\@pdfcreationdate\@empty
10895     \else
10896       /CreationDate(\@pdfcreationdate)%
10897     \fi
10898     \ifx\@pdfmoddate\@empty
10899     \else
10900       /ModDate(\@pdfmoddate)%
10901     \fi
10902     /Author(\@pdfauthor)%
10903     \ifx\@pdfproducer\relax
10904     \else
10905       /Producer(\@pdfproducer)%
10906     \fi
10907     /Keywords(\@pdfkeywords)%
10908     \ifx\@pdftrapped\@empty
10909     \else
10910       /Trapped/\@pdftrapped
10911     \fi
10912     \HyInfo@Addons
10913   >>%
10914 }%
10915 \Hy@DisableOption{pdfauthor}%
10916 \Hy@DisableOption{pdftitle}%
10917 \Hy@DisableOption{pdfsubject}%
10918 \Hy@DisableOption{pdfcreator}%
10919 \Hy@DisableOption{pdfcreationdate}%
10920 \Hy@DisableOption{pdfmoddate}%
10921 \Hy@DisableOption{pdfproducer}%
10922 \Hy@DisableOption{pdfkeywords}%
10923 \Hy@DisableOption{pdftrapped}%
10924 \Hy@DisableOption{pdfinfo}%
10925 }

10926 \def\PDF@SetupDoc{%
10927   \edef\Hy@temp{%
10928     \ifHy@pdftoolbar\else /HideToolbar true\fi
10929     \ifHy@pdfmenubar\else /HideMenubar true\fi
10930     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10931     \ifHy@pdfitwindow /FitWindow true\fi
10932     \ifHy@pdfcenterwindow /CenterWindow true\fi
10933     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10934     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10935     \Hy@UseNameKey{Direction}\@pdfdirection
10936     \Hy@UseNameKey{ViewArea}\@pdfviewarea

```

```

10937 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10938 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10939 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10940 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10941 \Hy@UseNameKey{Duplex}\@pdfduplex
10942 \ifx\@pdfpicktraybypdfsize\@empty
10943 \else
10944   /PickTrayByPDFSize \@pdfpicktraybypdfsize
10945 \fi
10946 \ifx\@pdfprintpagerange\@empty
10947 \else
10948   /PrintPageRange[\@pdfprintpagerange]%
10949 \fi
10950 \ifx\@pdfnumcopies\@empty
10951 \else
10952   /NumCopies \@pdfnumcopies
10953 \fi
10954 }%
10955 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10956 \@pdfm@mark{%
10957   docview<<%
10958     \ifx\@pdfstartpage\@empty
10959     \else
10960       \ifx\@pdfstartview\@empty
10961       \else
10962         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10963       \fi
10964     \fi
10965     \ifx\@baseurl\@empty
10966     \else
10967       /URI<</Base(\Hy@pstringB)>>%
10968     \fi
10969     /PageMode/\@pdfpagemode
10970     \ifx\Hy@temp\@empty
10971     \else
10972       /ViewerPreferences<<\Hy@temp>>%
10973     \fi
10974     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10975     \ifx\@pdflang\relax
10976     \else
10977       /Lang(\@pdflang)%
10978     \fi
10979   >>%
10980 }%
10981 \ifx\@pdfpagescrop\@empty
10982 \else
10983   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10984 \fi
10985 }
10986 </dvi pdfm | xetex>

```

```
10987 < *dvipdfm | xetex >
```

```
\hyper@pagetransition
```

```
10988 \def\hyper@pagetransition{%
10989   \ifx\@pdfpagetransition\relax
10990   \else
10991     \ifx\@pdfpagetransition\@empty
10992     \else
10993       \special{pdf:put @thispage %
10994         <</Trans<</S/\@pdfpagetransition>>>>%
10995       }%
10996     \fi
10997   \fi
10998 }
```

```
\hyper@pageduration
```

```
10999 \def\hyper@pageduration{%
11000   \ifx\@pdfpageduration\relax
11001   \else
11002     \ifx\@pdfpageduration\@empty
11003     \else
11004       \special{pdf:put @thispage %
11005         <</Dur \@pdfpageduration>>>>%
11006       }%
11007     \fi
11008   \fi
11009 }
```

```
\hyper@pagehidden
```

```
11010 \def\hyper@pagehidden{%
11011   \ifHy@useHidKey
11012     \special{pdf:put @thispage %
11013       <</Hid \ifHy@pdfpagehidden true\else false\fi>>>>%
11014     }%
11015   \fi
11016 }
```

```
11017 \g@addto@macro\Hy@EveryPageBoxHook{%
11018   \hyper@pagetransition
11019   \hyper@pageduration
11020   \hyper@pagehidden
11021 }
```

```
11022 < /dvipdfm | xetex >
```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```
11023 < *dvipdfm >
11024 \AtBeginShipoutFirst{%
11025   \ifHy@setpagesize
```

```

11026 \begingroup
11027 \ifundefined{stockwidth}{%
11028 \ifdim\paperwidth>\z@
11029 \ifdim\paperheight>\z@
11030 \special{papersize=\the\paperwidth,\the\paperheight}%
11031 \fi
11032 \fi
11033 }{%
11034 \ifdim\stockwidth>\z@
11035 \ifdim\stockheight>\z@
11036 \special{papersize=\the\stockwidth,\the\stockheight}%
11037 \fi
11038 \fi
11039 }%
11040 \endgroup
11041 \fi
11042 \Hy@DisableOption{setpagesize}%
11043 }
11044 </dvipdfm>

```

47.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

11045 <*vtexhtml>
11046 \providecommand*\XR@ext}{htm}
11047 \RequirePackage{vtexhtml}
11048 \newif\if@Localurl
11049 \let\PDF@FinishDoc\ltx@empty
11050 \def\PDF@SetupDoc{%
11051 \ifx\@baseurl\@empty
11052 \else
11053 \special{!direct <base href="\@baseurl">}%
11054 \fi
11055 }
11056 \def\@urltype{url}
11057 \def\hyper@link#1#2#3{%
11058 \Hy@VerboseLinkStart{#1}{#2}%
11059 \leavevmode
11060 \special{!direct <a href=%
11061 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
11062 #3\Hy@xspace@end
11063 \special{!direct </a>}%
11064 }
11065 \def\hyper@linkurl#1#2{%
11066 \begingroup
11067 \hyper@chars
11068 \leavevmode
11069 \MathBSuppress=1\relax

```

```

11070 \special{!direct <a href=%
11071 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
11072 #1\Hy@xspace@end
11073 \MathBSuppress=0\relax
11074 \special{!direct </a>}%
11075 \endgroup
11076 }
11077 \def\hyper@linkfile#1#2#3{%
11078 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
11079 }
11080 \def\hyper@linkstart#1#2{%
11081 \Hy@VerboseLinkStart{#1}{#2}%
11082 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
11083 \@Localurltrue
11084 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
11085 \else
11086 \@Localurlfalse
11087 \begingroup
11088 \hyper@chars
11089 \special{!aref \HyperDestNameFilter{#2}}%
11090 \endgroup
11091 \fi
11092 }
11093 \def\hyper@linkend{%
11094 \if@Localurl
11095 \special{!endaref}%
11096 \else
11097 \special{!direct </a>}%
11098 \fi
11099 }
11100 \Hy@WrapperDef\hyper@anchorstart#1{%
11101 \Hy@SaveLastskip
11102 \Hy@VerboseAnchor{#1}%
11103 \begingroup
11104 \hyper@chars
11105 \special{!aname #1}%
11106 \special{!direct <a name=%
11107 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11108 \endgroup
11109 \Hy@activeanchortrue
11110 }
11111 \def\hyper@anchorend{%
11112 \special{!direct </a>}%
11113 \Hy@activeanchorfalse
11114 \Hy@RestoreLastskip
11115 }
11116 \Hy@WrapperDef\hyper@anchor#1{%
11117 \Hy@SaveLastskip
11118 \Hy@VerboseAnchor{#1}%
11119 \begingroup

```



```

11120 \let\protect=\string
11121 \hyper@chars
11122 \leavevmode
11123 \special{!aname #1}%
11124 \special{!direct <a name=%
11125     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11126 \endgroup
11127 \Hy@activeanchortrue
11128 \bgroup\anchor@spot\egroup
11129 \special{!direct </a>}%
11130 \Hy@activeanchorfalse
11131 \Hy@RestoreLastskip
11132 }
11133 \def\@Form[#1]{%
11134 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11135 }
11136 \let\@endForm\ltx@empty
11137 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11138 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
11139 }
11140 \def\@TextField[#1]#2{% parameters, label
11141 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
11142 }
11143 \def\@CheckBox[#1]#2{% parameters, label
11144 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
11145 }
11146 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11147 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
11148 }
11149 \def\@PushButton[#1]#2{% parameters, label
11150 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
11151 }
11152 \def\@Reset[#1]#2{%
11153 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11154 }
11155 \def\@Submit[#1]#2{%
11156 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11157 }
11158 </vtexhtml>
11159 <*vtex>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

11160 \ifx\mediaheight\@undefined
11161 \else
11162 \ifx\mediaheight\relax
11163 \else
11164 \ifHy@setpagesize
11165 \providecommand*{\VTeXInitMediaSize}{%

```

```

11166 \ltx@ifundefined{stockwidth}{%
11167 \ifdim\paperheight>0pt %
11168 \setlength\mediaheight\paperheight
11169 \fi
11170 \ifdim\paperheight>0pt %
11171 \setlength\mediawidth\paperwidth
11172 \fi
11173 }{%
11174 \ifdim\stockheight>0pt %
11175 \setlength\mediaheight\stockheight
11176 \fi
11177 \ifdim\stockwidth>0pt %
11178 \setlength\mediawidth\stockwidth
11179 \fi
11180 }%
11181 }%
11182 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
11183 \fi
11184 \Hy@DisableOption{setpagesize}%
11185 \fi
11186 \fi

```

Older versions of VTeX require xyz in lower case.

```

11187 \providecommand*\@pdfview{xyz}
11188 \providecommand*\@pdfborder{0 0 1}
11189 \providecommand*\@pdfborderstyle{}
11190 \let\CurrentBorderColor\@linkbordercolor
11191 \Hy@WrapperDef\hyper@anchor#1{%
11192 \Hy@SaveLastskip
11193 \Hy@VerboseAnchor{#1}%
11194 \begingroup
11195 \let\protect=\string
11196 \hyper@chars
11197 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11198 \endgroup
11199 \Hy@activeanchortrue
11200 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11201 \Hy@activeanchorfalse
11202 \Hy@RestoreLastskip
11203 }
11204 \Hy@WrapperDef\hyper@anchorstart#1{%
11205 \Hy@SaveLastskip
11206 \Hy@VerboseAnchor{#1}%
11207 \begingroup
11208 \hyper@chars
11209 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11210 \endgroup
11211 \Hy@activeanchortrue
11212 }
11213 \def\hyper@anchorend{%

```

```

11214 \Hy@activeanchorfalse
11215 \Hy@RestoreLastskip
11216 }
11217 \def\@urltype{url}
11218 \def\Hy@undefinedname{UNDEFINED}
11219 \def\hyper@linkstart#1#2{%
11220 \Hy@VerboseLinkStart{#1}{#2}%
11221 \Hy@pstringdef\Hy@pstringURI{#2}%
11222 \expandafter\Hy@colorlink\csname @#1color\endcsname
11223 \ltx@ifundefined{@#1bordercolor}{%
11224 \let\CurrentBorderColor\relax
11225 }{%
11226 \edef\CurrentBorderColor{%
11227 \csname @#1bordercolor\endcsname
11228 }%
11229 }%
11230 \def\Hy@tempa{#1}%
11231 \ifx\Hy@tempa\@urltype
11232 \special{!%
11233   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11234   \ifHy@href@ismap
11235   /IsMap true%
11236   \fi
11237   \Hy@href@nextactionraw
11238   >;%
11239   a=<%
11240   \ifHy@pdfa /F 4\fi
11241   \Hy@setpdfborder
11242   \ifx\CurrentBorderColor\relax
11243   \else
11244   /C [\CurrentBorderColor]%
11245   \fi
11246   >%
11247   }%
11248 \else
11249 \protected@edef\Hy@testname{#2}%
11250 \ifx\Hy@testname\@empty
11251 \Hy@Warning{%
11252   Empty destination name,\MessageBreak
11253   using '\Hy@undefinedname'%
11254   }%
11255 \let\Hy@testname\Hy@undefinedname
11256 \fi
11257 \special{!%
11258   aref \expandafter\HyperDestNameFilter
11259   \expandafter{\Hy@testname};%
11260   a=<%
11261   \ifHy@pdfa /F 4\fi
11262   \Hy@setpdfborder
11263   \ifx\CurrentBorderColor\relax

```

```

11264     \else
11265         /C [\CurrentBorderColor]%
11266     \fi
11267     >%
11268     }%
11269 \fi
11270 }
11271 \def\hyper@linkend{%
11272     \special{!endaref}%
11273     \Hy@endcolorlink
11274 }
11275 \def\hyper@linkfile#1#2#3{%
11276     \leavevmode
11277     \def\Hy@pstringF{#2}%
11278     \Hy@CleanupFile\Hy@pstringF
11279     \special{!%
11280         aref <%
11281         \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11282         f=\Hy@pstringF>#3;%
11283         a=<%
11284         \ifHy@pdfa /F 4\fi
11285         \Hy@setpdfborder
11286         \ifx\@filebordercolor\relax
11287             \else
11288                 /C [\@filebordercolor]%
11289             \fi
11290         >%
11291         }%
11292         \Hy@colorlink\@filecolor
11293         #1\Hy@xspace@end
11294         \Hy@endcolorlink
11295         \special{!endaref}%
11296     }
11297 \def\hyper@linkurl#1#2{%
11298     \begingroup
11299     \Hy@pstringdef\Hy@pstringURI{#2}%
11300     \hyper@chars
11301     \leavevmode
11302     \special{!%
11303         aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11304         \ifHy@href@ismap
11305             /IsMap true%
11306         \fi
11307         \Hy@href@nextactionraw
11308         >,%
11309         a=<%
11310         \ifHy@pdfa /F 4\fi
11311         \Hy@setpdfborder
11312         \ifx\@urlbordercolor\relax
11313             \else

```

```

11314      /C [\@urlbordercolor]%
11315      \fi
11316      >%
11317      }%
11318      \Hy@colorlink\@urlcolor
11319      #1\Hy@xspace@end
11320      \Hy@endcolorlink
11321      \special{!endaref}%
11322      \endgroup
11323      }
11324      \def\hyper@link#1#2#3{%
11325      \Hy@VerboseLinkStart{#1}{#2}%
11326      \ltx@ifundefined{@#1bordercolor}{%
11327      \let\CurrentBorderColor\relax
11328      }{%
11329      \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11330      }%
11331      \leavevmode
11332      \protected@edef\Hy@testname{#2}%
11333      \ifx\Hy@testname\@empty
11334      \Hy@Warning{%
11335      Empty destination name,\MessageBreak
11336      using '\Hy@undefinedname'%
11337      }%
11338      \let\Hy@testname\Hy@undefinedname
11339      \fi
11340      \special{!%
11341      aref \expandafter\HyperDestNameFilter
11342      \expandafter{\Hy@testname};%
11343      a=<%
11344      \ifHy@pdfa /F 4\fi
11345      \Hy@setpdfborder
11346      \ifx\CurrentBorderColor\relax
11347      \else
11348      /C [\CurrentBorderColor]%
11349      \fi
11350      >%
11351      }%
11352      \expandafter
11353      \Hy@colorlink\csname @#1color\endcsname
11354      #3\Hy@xspace@end
11355      \Hy@endcolorlink
11356      \special{!endaref}%
11357      }
11358      \def\hyper@image#1#2{%
11359      \hyper@linkurl{#2}{#1}%
11360      }
11361      \def\@hyper@launch run:#1\#2#3{%
11362      \Hy@pstringdef\Hy@pstringF{#1}%
11363      \Hy@pstringdef\Hy@pstringP{#3}%

```

```

11364 \leavevmode
11365 \special{!aref %
11366   <u=%
11367     /Type/Action%
11368     /S/Launch%
11369     /F(\Hy@pstringF)%
11370     \Hy@SetNewWindow
11371     \ifx\#3\%
11372   \else
11373     /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11374   \fi
11375   \Hy@href@nextactionraw
11376 >,%
11377 a=<%
11378   \ifHy@pdfa /F 4\fi
11379   \Hy@setpdfborder
11380   \ifx\@runbordercolor\relax
11381   \else
11382     /C[\@runbordercolor]%
11383   \fi
11384 >%
11385 }%
11386 \Hy@colorlink\@runcolor
11387   #2\Hy@xspace@end
11388 \Hy@endcolorlink
11389 \special{!endaref}%
11390 }
11391 \def\Acrobatmenu#1#2{%
11392   \EdefEscapeName\Hy@temp@menu{#1}%
11393   \Hy@Acrobatmenu{#1}{#2}{%
11394     \special{!%
11395       aref <u=/S /Named /N /\Hy@temp@menu>;%
11396       a=<%
11397         \ifHy@pdfa /F 4\fi
11398         \Hy@setpdfborder
11399         \ifx\@menubordercolor\relax
11400         \else
11401           /C[\@menubordercolor]%
11402         \fi
11403       >%
11404     }%
11405     \Hy@colorlink\@menucolor
11406     #2\Hy@xspace@end
11407     \Hy@endcolorlink
11408     \special{!endaref}%
11409   }%
11410 }

```

The following code (transition effects) is made by Alex Kostin.
The code below makes sense for $\text{\texttt{V\TeX}}$ 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{...}{...}` globally.

```
11411 \ifnum\Hy@VTeXversion<702 %
11412 \else
11413 \def\hyper@pagetransition{%
11414 \ifx\@pdfpagetransition\relax
11415 \else
11416 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
11417 \else
11418 \hvtex@parse@trans\@pdfpagetransition
11419 \fi
11420 \fi
11421 }%
```

I have to write an “honest” parser to convert raw PDF code into V_TE_X `\special`.
(AVK)

Syntax of V_TE_X `\special{!trans <transition_effect>}`:

```
<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>
```

Transition codes:

```
11422 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11423 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11424 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11425 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11426 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11427 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11428 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
11429 \def\hvtex@par@dimension{/Dm}%
11430 \def\hvtex@par@direction{/Di}%
11431 \def\hvtex@par@duration{/D}%
11432 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
11433 \def\hvtex@gettoken{%
11434   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11435 }%
```

Notice that tokens in the input buffer must be space delimited.

```
11436 \def\hvtex@gettoken@#1 #2\@nil{%
11437   \edef\hvtex@token{#1}%
11438   \edef\hvtex@buffer{#2}%
11439 }%
11440 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
11441 \let\hvtex@trans@code\@empty
11442 \let\hvtex@param@dimension\@empty
11443 \let\hvtex@param@direction\@empty
11444 \let\hvtex@param@duration\@empty
11445 \let\hvtex@param@motion\@empty
11446 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
11447 \hvtex@gettoken
11448 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
11449 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
11450   \else
11451     \hvtex@gettoken
11452   \fi
11453 \fi
11454 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
11455 \hvtex@trans@params
11456 }%
```

Reentrant macro to parse optional parameters.

```
11457 \def\hvtex@trans@params{%
11458   \ifx\hvtex@buffer\@empty
11459   \else
11460     \hvtex@gettoken
11461     \let\hvtex@trans@par\hvtex@token
11462     \ifx\hvtex@buffer\@empty
11463     \else
11464       \hvtex@gettoken
11465       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_TE_X special takes it in milliseconds.

```
11466       \let\hvtex@param@duration\hvtex@token
11467     \else \ifx\hvtex@trans@par\hvtex@par@motion
```


/M can be either /I or /O

```
11468     \expandafter\edef\expandafter\hvtex@param@motion
11469     \expandafter{\expandafter\@gobble\hvtex@token}%
11470     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
11471     \expandafter\edef\expandafter\hvtex@param@dimension
11472     \expandafter{\expandafter\@gobble\hvtex@token}%
11473     \else \ifx\hvtex@trans@par\hvtex@par@direction
```

Valid values for /Di are 0, 270, 315 (the Glitter effect) or 0, 90, 180, 270 (the Wipe effect).

```
11474     \let\hvtex@param@direction\hvtex@token
11475     \fi\fi\fi\fi
11476     \fi
11477     \fi
11478     \ifx\hvtex@buffer\@empty
11479     \let\next\hvtex@produce@trans
11480     \else
11481     \let\next\hvtex@trans@params
11482     \fi
11483     \next
11484 }%
```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
11485 \def\hvtex@produce@trans{%
11486 \let\vtex@trans@special\@empty
11487 \if S\hvtex@trans@code
11488 \edef\vtex@trans@special{\hvtex@trans@code
11489 \hvtex@param@dimension\hvtex@param@motion}%
11490 \else\if B\hvtex@trans@code
11491 \edef\vtex@trans@special{%
11492 \hvtex@trans@code\hvtex@param@dimension
11493 }%
11494 \else\if X\hvtex@trans@code
11495 \edef\vtex@trans@special{%
11496 \hvtex@trans@code\hvtex@param@motion
11497 }%
11498 \else\if W\hvtex@trans@code
11499 \edef\vtex@trans@special{%
11500 \hvtex@trans@code\hvtex@param@direction
11501 }%
11502 \else\if D\hvtex@trans@code
11503 \let\vtex@trans@special\hvtex@trans@code
11504 \else\if R\hvtex@trans@code
11505 \let\vtex@trans@special\hvtex@trans@code
11506 \else\if G\hvtex@trans@code
11507 \edef\vtex@trans@special{%
11508 \hvtex@trans@code\hvtex@param@direction
11509 }%
```

```

11510 \fi\fi\fi\fi\fi\fi
11511 \ifx\vtex@trans@special\@empty
11512 \else
11513 \ifx\hvtex@param@duration\@empty
11514 \else
11515 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11516 \multiply\dimen@\@m
11517 \edef\vtex@trans@special{%
11518 \vtex@trans@special,\strip@pt\dimen@
11519 }%
11520 \fi

```

And all the mess is just for this.

```

11521 \special{!trans \vtex@trans@special}%
11522 \fi
11523 }%
11524 \def\hyper@pageduration{%
11525 \ifx\@pdfpageduration\relax
11526 \else
11527 \ifx\@pdfpageduration\@empty
11528 \special{!duration-}%
11529 \else
11530 \special{!duration \@pdfpageduration}%
11531 \fi
11532 \fi
11533 }%
11534 \def\hyper@pagehidden{%
11535 \ifHy@useHidKey
11536 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11537 \fi
11538 }%
11539 \g@addto@macro\Hy@EveryPageBoxHook{%
11540 \hyper@pagetransition
11541 \hyper@pageduration
11542 \hyper@pagehidden
11543 }%
11544 \fi

```

Caution: In opposite to the other drivers, the argument of `\special{!onopen #1}` is a reference name. The VTeX's postscript mode will work with a version higher than 7.0x.

The command `\VTeXOS` is defined since version 7.45. Magic values encode the operating system:

- 1: WinTel
- 2: Linux
- 3: OS/2
- 4: MacOS
- 5: MacOS/X

```

11545 \ifx\@pdfproducer\relax
11546 \def\@pdfproducer{VTeX}%
11547 \ifnum\Hy@VTeXversion>\z@
11548 \count@\VTeXversion
11549 \divide\count@ 100 %
11550 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11551 \multiply\count@ -100 %
11552 \advance\count@\VTeXversion
11553 \edef\@pdfproducer{%
11554 \@pdfproducer
11555 .\ifnum\count@<10 0\fi\the\count@
11556 \ifx\VTeXOS\@undefined\else
11557 \ifnum\VTeXOS>0 %
11558 \ifnum\VTeXOS<6 %
11559 \space(%
11560 \ifcase\VTeXOS
11561 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11562 \fi
11563 )%
11564 \fi
11565 \fi
11566 \fi
11567 ,\space
11568 \ifnum\OpMode=\@ne PDF\else PS\fi
11569 \space backend%
11570 \ifx\gexmode\@undefined\else
11571 \ifnum\gexmode>\z@\space with GeX\fi
11572 \fi
11573 }%
11574 \fi
11575 \fi

```

Current !pdfinfo key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<.>>> (yuck; no choice).

```

11576 \def\PDF@SetupDoc{%
11577 \ifx\@pdfpagescrop\@empty
11578 \else

```

```

11579 \special{!pdfinfo b=<\@pdfpagescrop>}%
11580 \fi
11581 \ifx\@pdfstartpage\@empty
11582 \else
11583 \ifx\@pdfstartview\@empty
11584 \else
11585 \special{!onopen Page\@pdfstartpage}%
11586 \fi
11587 \fi
11588 \special{!pdfinfo p=<\/\@pdfpagemode>}%
11589 \ifx\@baseurl\@empty
11590 \else
11591 \special{!pdfinfo u=<<<\/Base (\@baseurl)>>>}%
11592 \fi
11593 \special{!pdfinfo v=<<<%
11594 \ifHy@pdftoolbar\else /HideToolbar true\fi
11595 \ifHy@pdfmenubar\else /HideMenubar true\fi
11596 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11597 \ifHy@pdfwindow /FitWindow true\fi
11598 \ifHy@pdfcenterwindow /CenterWindow true\fi
11599 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11600 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11601 \Hy@UseNameKey{Direction}\@pdfdirection
11602 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11603 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11604 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11605 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11606 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11607 \Hy@UseNameKey{Duplex}\@pdfduplex
11608 \ifx\@pdfpicktraybypdfsize\@empty
11609 \else
11610 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11611 \fi
11612 \ifx\@pdfprintpagerange\@empty
11613 \else
11614 /PrintPageRange[\@pdfprintpagerange]%
11615 \fi
11616 \ifx\@pdfnumcopies\@empty
11617 \else
11618 /NumCopies \@pdfnumcopies
11619 \fi
11620 >>>}%
11621 \ifx\@pdfpagelayout\@empty
11622 \else
11623 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
11624 \fi
11625 }%
11626 \HyInfo@AddonUnsupportedtrue
11627 \define@key{Hyp}{pdfcreationdate}{%
11628 \Hy@Warning{%

```

```

11629 VTeX does not support pdfcreationdate.\MessageBreak
11630 Therefore its setting is ignored%
11631 }%
11632 }
11633 \define@key{Hyp}{pdfmoddate}{%
11634 \Hy@Warning{%
11635 VTeX does not support pdfmoddate.\MessageBreak
11636 Therefore its setting is ignored%
11637 }%
11638 }
11639 \def\PDF@FinishDoc{%
11640 \Hy@UseMaketitleInfos
11641 \HyInfo@TrappedUnsupported
11642 \special{!pdfinfo a=<\@pdfauthor>}%
11643 \special{!pdfinfo t=<\@pdftitle>}%
11644 \special{!pdfinfo s=<\@pdfsubject>}%
11645 \special{!pdfinfo c=<\@pdfcreator>}%
11646 \ifx\@pdfproducer\relax
11647 \else
11648 \special{!pdfinfo r=<\@pdfproducer>}%
11649 \fi
11650 \special{!pdfinfo k=<\@pdfkeywords>}%
11651 \Hy@DisableOption{pdfauthor}%
11652 \Hy@DisableOption{pdftitle}%
11653 \Hy@DisableOption{pdfsubject}%
11654 \Hy@DisableOption{pdfcreator}%
11655 \Hy@DisableOption{pdfcreationdate}%
11656 \Hy@DisableOption{pdfmoddate}%
11657 \Hy@DisableOption{pdfproducer}%
11658 \Hy@DisableOption{pdfkeywords}%
11659 \Hy@DisableOption{pdftrapped}%
11660 \Hy@DisableOption{pdfinfo}%
11661 }
11662 </vtex>

```

47.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

11663 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11664 <package>\providecommand*{\Hy@DistillerDestFix}{%
11665 <*pdfmark | dviwindo>

```

```

11666 \def\Hy@DistillerDestFix{%
11667   \begingroup
11668   \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11669   \ifnum \@ifundefined{OpMode}{0}{%
11670     \@ifundefined{gexmode}{0}{%
11671       \ifnum\gexmode>0 \OpMode\else 0\fi
11672     }>1 %
11673   \def\x##1{%
11674     \immediate\special{!=##1}%
11675   }%
11676 \fi
11677 \x{%
11678   /product where{%
11679     pop %
11680     product(Distiller)search{%
11681       pop pop pop %
11682       version(.)search{%
11683         exch pop exch pop%
11684         (3011)eq{%
11685           gsave %
11686           newpath 0 0 moveto closepath clip%
11687           /Courier findfont 10 scalefont setfont %
11688           72 72 moveto(.)show %
11689           grestore%
11690         }if%
11691       }{pop}ifelse%
11692     }{pop}ifelse%
11693   }if%
11694 }%
11695 \endgroup
11696 }
11697 </pdfmark | dviwindo>

```

47.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

```

\@pdfproducer  for document information
\literalps@out PostScript output
\headerps@out  PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S      start of anchor, link or rect
#1 H.A   end of anchor, argument=baselineskip in pt
#1 H.L   end of link, argument=baselineskip in pt
H.R      end of rect
H.B      raw rect code

```

```

11698 <*pdfmark>
11699 \Hy@breaklinks@unsupported
11700 \def\HyPat@ObjRef{%
11701   \[~{}]+\}%
11702 }
11703 \Hy@WrapperDef\hyper@anchor#1{%
11704   \Hy@SaveLastskip
11705   \Hy@VerboseAnchor{#1}%
11706   \begingroup
11707   \pdfmark[\anchor@spot]{%
11708     pdfmark=/DEST,%
11709     linktype=anchor,%
11710     View=/\@pdfview \@pdfviewparams,%
11711     DestAnchor={#1}%
11712   }%
11713   \endgroup
11714   \Hy@RestoreLastskip
11715 }
11716 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
11717 \Hy@WrapperDef\hyper@anchorstart#1{%
11718   \Hy@SaveLastskip
11719   \Hy@VerboseAnchor{#1}%
11720   \literals@out{H.S}%
11721   \Hy@AllowHyphens
11722   \xdef\hyper@currentanchor{#1}%
11723   \Hy@activeanchortrue
11724 }
11725 \def\hyper@anchorend{%
11726   \literals@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11727   \pdfmark{%
11728     pdfmark=/DEST,%
11729     linktype=anchor,%
11730     View=/\@pdfview \@pdfviewparams,%
11731     DestAnchor=\hyper@currentanchor,%
11732   }%
11733   \Hy@activeanchorfalse
11734   \Hy@RestoreLastskip
11735 }
11736 \def\hyper@linkstart#1#2{%
11737   \Hy@VerboseLinkStart{#1}{#2}%
11738   \ifHy@breaklinks
11739   \else
11740     \leavevmode
11741     \ifmmode
11742       \def\Hy@LinkMath{$}%
11743     \else
11744       \let\Hy@LinkMath\ltx@empty
11745     \fi
11746     \Hy@SaveSpaceFactor
11747     \hbox\bgroup

```

```

11748 \Hy@RestoreSpaceFactor
11749 \Hy@LinkMath
11750 \fi
11751 \expandafter\Hy@colorlink\csname @#1color\endcsname
11752 \literalps@out{H.S}%
11753 \Hy@AllowHyphens
11754 \xdef\hyper@currentanchor{#2}%
11755 \gdef\hyper@currentlinktype{#1}%
11756 }
11757 \def\hyper@linkend{%
11758 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11759 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11760 \let\Hy@tempcolor\relax
11761 }{%
11762 \edef\Hy@tempcolor{%
11763 \csname @\hyper@currentlinktype bordercolor\endcsname
11764 }%
11765 }%
11766 \pdfmark{%
11767 pdfmark=/ANN,%
11768 linktype=link,%
11769 Subtype=/Link,%
11770 PDFAFlags=4,%
11771 Dest=\hyper@currentanchor,%
11772 AcroHighlight=\@pdfhighlight,%
11773 Border=\@pdfborder,%
11774 BorderStyle=\@pdfborderstyle,%
11775 Color=\Hy@tempcolor,%
11776 Raw=H.B%
11777 }%
11778 \Hy@endcolorlink
11779 \ifHy@breaklinks
11780 \else
11781 \Hy@LinkMath
11782 \Hy@SaveSpaceFactor
11783 \egroup
11784 \Hy@RestoreSpaceFactor
11785 \fi
11786 }

```

We have to allow for `\baselineskip` having an optional stretch and shrink (you meet this in slide packages, for instance), so we need to strip off the junk. David Carlisle, of course, wrote this bit of code.

```

11787 \begingroup
11788 \catcode'P=12 %
11789 \catcode'T=12 %
11790 \lowercase{\endgroup
11791 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11792 }
11793 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```


\hyper@pagetransition

```
11794 \def\hyper@pagetransition{%
11795   \ifx\@pdfpagetransition\relax
11796   \else
11797     \ifx\@pdfpagetransition\@empty
11798       % 1. Does an old entry have to be deleted?
11799       % 2. If 1=yes, how to delete?
11800     \else
11801       \pdfmark{%
11802         pdfmark=/PUT,%
11803         Raw={%
11804           \string{ThisPage\string}%
11805           <</Trans << /S /\@pdfpagetransition\space >> >>%
11806         }%
11807       }%
11808     \fi
11809   \fi
11810 }
```

\hyper@pageduration

```
11811 \def\hyper@pageduration{%
11812   \ifx\@pdfpageduration\relax
11813   \else
11814     \ifx\@pdfpageduration\@empty
11815       % 1. Does an old entry have to be deleted?
11816       % 2. If 1=yes, how to delete?
11817     \else
11818       \pdfmark{%
11819         pdfmark=/PUT,%
11820         Raw={%
11821           \string{ThisPage\string}%
11822           <</Dur \@pdfpageduration>>%
11823         }%
11824       }%
11825     \fi
11826   \fi
11827 }
```

\hyper@pagehidden

```
11828 \def\hyper@pagehidden{%
11829   \ifHy@useHidKey
11830   \pdfmark{%
11831     pdfmark=/PUT,%
11832     Raw={%
11833       \string{ThisPage\string}%
11834       <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11835     }%
11836   }%
11837 \fi
11838 }
```

```

11839 \g@addto@macro\Hy@EveryPageBoxHook{%
11840   \hyper@pagetransition
11841   \hyper@pageduration
11842   \hyper@pagehidden
11843 }

11844 \def\hyper@image#1#2{%
11845   \hyper@linkurl{#2}{#1}%
11846 }

11847 \def\Hy@undefinedname{UNDEFINED}
11848 \def\hyper@link#1#2#3{%
11849   \Hy@VerboseLinkStart{#1}{#2}%
11850   \ltx@ifundefined{@#1bordercolor}{%
11851     \let\Hy@tempcolor\relax
11852   }{%
11853     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11854   }%
11855   \begingroup
11856     \protected@edef\Hy@testname{#2}%
11857     \ifx\Hy@testname\@empty
11858       \Hy@Warning{%
11859         Empty destination name,\MessageBreak
11860         using '\Hy@undefinedname'%
11861       }%
11862       \let\Hy@testname\Hy@undefinedname
11863     \fi
11864     \pdfmark[{#3}]{%
11865       Color=\Hy@tempcolor,%
11866       linktype={#1},%
11867       AcroHighlight=\@pdfhighlight,%
11868       Border=\@pdfborder,%
11869       BorderStyle=\@pdfborderstyle,%
11870       pdfmark=/ANN,%
11871       Subtype=/Link,%
11872       PDFAFlags=4,%
11873       Dest=\Hy@testname
11874     }%
11875   \endgroup
11876 }

11877 \newtoks\pdf@docset
11878 \def\PDF@FinishDoc{%
11879   \Hy@UseMaketitleInfos
11880   \Hy@Info@GenerateAddons
11881   \let\Hy@temp\@empty
11882   \ifx\@pdfcreationdate\@empty
11883   \else
11884     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11885   \fi
11886   \ifx\@pdfmoddate\@empty
11887   \else

```

```

11888 \expandafter\def\expandafter\Hy@temp\expandafter{%
11889 \Hy@temp
11890 ModDate=\@pdfmoddate,%
11891 }%
11892 \fi
11893 \ifx\@pdfproducer\relax
11894 \else
11895 \expandafter\def\expandafter\Hy@temp\expandafter{%
11896 \Hy@temp
11897 Producer=\@pdfproducer,%
11898 }%
11899 \fi
11900 \expandafter
11901 \pdfmark\expandafter{%
11902 \Hy@temp
11903 pdfmark=/DOCINFO,%
11904 Title=\@pdftitle,%
11905 Subject=\@pdfsubject,%
11906 Creator=\@pdfcreator,%
11907 Author=\@pdfauthor,%
11908 Keywords=\@pdfkeywords,%
11909 Trapped=\@pdftrapped
11910 }%
11911 \ifx\HyInfo@Addons\@empty
11912 \else
11913 \pdfmark{%
11914 pdfmark=/DOCINFO,%
11915 Raw={\HyInfo@Addons}%
11916 }%
11917 \fi
11918 \Hy@DisableOption{pdfauthor}%
11919 \Hy@DisableOption{pdftitle}%
11920 \Hy@DisableOption{pdfsubject}%
11921 \Hy@DisableOption{pdfcreator}%
11922 \Hy@DisableOption{pdfcreationdate}%
11923 \Hy@DisableOption{pdfmoddate}%
11924 \Hy@DisableOption{pdfproducer}%
11925 \Hy@DisableOption{pdfkeywords}%
11926 \Hy@DisableOption{pdftrapped}%
11927 \Hy@DisableOption{pdfinfo}%
11928 }
11929 \def\PDF@SetupDoc{%
11930 \def\Hy@temp{}%
11931 \ifx\@pdfstartpage\@empty
11932 \else
11933 \ifx\@pdfstartview\@empty
11934 \else
11935 \edef\Hy@temp{%
11936 ,Page=\@pdfstartpage
11937 ,View=\@pdfstartview

```

```

11938     }%
11939     \fi
11940 \fi
11941 \edef\Hy@temp{%
11942     \noexpand\pdfmark{%
11943         pdfmark=/DOCVIEW,%
11944         PageMode=/\@pdfpagemode
11945     \Hy@temp
11946     }%
11947 }%
11948 \Hy@temp
11949 \ifx\@pdfpagescrop\@empty
11950 \else
11951     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11952 \fi
11953 \edef\Hy@temp{%
11954     \ifHy@pdftoolbar\else /HideToolbar true\fi
11955     \ifHy@pdfmenubar\else /HideMenubar true\fi
11956     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11957     \ifHy@pdfwindow /FitWindow true\fi
11958     \ifHy@pdfcenterwindow /CenterWindow true\fi
11959     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11960     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11961     \Hy@UseNameKey{Direction}\@pdfdirection
11962     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11963     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11964     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11965     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11966     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11967     \Hy@UseNameKey{Duplex}\@pdfduplex
11968     \ifx\@pdfpicktraybypdfsize\@empty
11969     \else
11970         /PickTrayByPDFSize \@pdfpicktraybypdfsize
11971     \fi
11972     \ifx\@pdfprintpagerange\@empty
11973     \else
11974         /PrintPageRange[\@pdfprintpagerange]%
11975     \fi
11976     \ifx\@pdfnumcopies\@empty
11977     \else
11978         /NumCopies \@pdfnumcopies
11979     \fi
11980 }%
11981 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11982 \pdfmark{%
11983     pdfmark=/PUT,%
11984     Raw={%
11985         \string{Catalog\string}<<%
11986         \ifx\Hy@temp\@empty
11987         \else

```

```

11988      /ViewerPreferences<<\Hy@temp>>%
11989      \fi
11990      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11991      \ifx\@pdflang\relax
11992      \else
11993      /Lang(\@pdflang)%
11994      \fi
11995      \ifx\@baseurl\@empty
11996      \else
11997      /URI<</Base(\Hy@pstringB)>>%
11998      \fi
11999      >>%
12000    }%
12001  }%
12002 }
12003 </pdfmark>
12004 <*pdfmarkbase>

```

We define a single macro, pdfmark, which uses the ‘keyval’ system to define the various allowable keys; these are *exactly* as listed in the pdfmark reference for Acrobat 3.0. The only addition is pdfmark which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied, but you have to put in / characters as needed for the values.

```

12005 \newif\ifHy@pdfmarkerror
12006 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
12007 \def\pdfmark@[#1]#2{%
12008   \Hy@pdfmarkerrorfalse
12009   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
12010   \@processme
12011   \let\pdf@type\relax
12012   \let\pdf@objdef\ltx@empty
12013   \kvsetkeys{PDF}{#2}%
12014   \ifHy@pdfmarkerror
12015   \else
12016     \ifx\pdf@type\relax
12017       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
12018       \ifx\#1\%
12019       \else
12020         \pdf@rect{#1}%
12021       \fi
12022     \else
12023       \ifx\#1\%
12024         \literalps@out{%
12025           [%
12026           \ifx\pdf@objdef\ltx@empty
12027           \else
12028             /_objdef\string{\pdf@objdef\string}%
12029           \fi
12030           \the\pdf@toks\space\pdf@type\space pdfmark%

```

```

12031 }%
12032 \else
12033 \ltx@ifundefined{@pdf@linktype color}{%
12034 \Hy@colorlink\@linkcolor
12035 }{%
12036 \expandafter\Hy@colorlink
12037 \csname @pdf@linktype color\endcsname
12038 }%
12039 \pdf@rect{#1}%
12040 \literalps@out{%
12041 [%
12042 \ifx\pdf@objdef\ltx@empty
12043 \else
12044 /_objdef\string{\pdf@objdef\string}%
12045 \fi
12046 \the\pdf@toks\space\pdf@type\space pdfmark%
12047 }%
12048 \Hy@endcolorlink
12049 \fi
12050 \fi
12051 \fi
12052 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

12053 \newsavebox{\pdf@box}
12054 \providecommand*\Hy@setouterhbox{\sbox}
12055 \providecommand*\Hy@breaklinksunhbox{\unhbox}
12056 \def\Hy@DEST{/DEST}
12057 \def\pdf@rect#1{%
12058 \begingroup
12059 \chardef\x=1 %
12060 \def\Hy@temp{#1}%
12061 \ifx\Hy@temp\ltx@empty
12062 \chardef\x=0 %
12063 \else
12064 \def\y{\anchor@spot}%
12065 \ifx\Hy@temp\y
12066 \def\y{\relax}%

```

```

12067      \ifx\anchor@spot\y
12068      \chardef\x=0 %
12069      \fi
12070  \fi
12071  \fi
12072  \expandafter\endgroup
12073  \ifcase\x
12074    \literalps@out{H.S}%
12075    \literalps@out{H.R}%
12076  \else
12077    \leavevmode
12078    \Hy@SaveSpaceFactor
12079    \ifmmode
12080      \def\Hy@LinkMath{$}%
12081    \else
12082      \let\Hy@LinkMath\ltx@empty
12083    \fi
12084    \ifHy@breaklinks
12085      \Hy@setouterhbox\pdf@box{%
12086        \Hy@RestoreSpaceFactor
12087        \Hy@LinkMath
12088        \Hy@AllowHyphens#1\Hy@xspace@end
12089        \Hy@LinkMath
12090        \Hy@SaveSpaceFactor
12091      }%
12092    \else
12093      \sbox\pdf@box{%
12094        \Hy@RestoreSpaceFactor
12095        \Hy@LinkMath
12096        #1\Hy@xspace@end
12097        \Hy@LinkMath
12098        \Hy@SaveSpaceFactor
12099      }%
12100    \fi
12101    \dimen@\ht\pdf@box
12102    \ifdim\dp\pdf@box=\z@
12103      \literalps@out{H.S}%
12104    \else
12105      \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
12106    \fi

```

If the text has to be horizontal mode stuff then just unbox the saved box like this, which saves executing it twice, which can mess up counters etc (thanks DPC...).

```

12107  \ifHy@breaklinks
12108    \ifhmode
12109      \Hy@breaklinksunhbox\pdf@box
12110    \else
12111      \box\pdf@box
12112    \fi
12113  \else

```

```

12114 \expandafter\box\pdf@box
12115 \fi

```

but if it can have multiple paragraphs you'd need one of these, but in that case the measured box size would be wrong anyway.

```

\ifHy@breaklinks#1\else\box\pdf@box\fi
\ifHy@breaklinks{#1}\else\box\pdf@box\fi

12116 \ifdim\dimen@=\z@
12117 \literalps@out{H.R}%
12118 \else
12119 \raise\dimen@\hbox{\literalps@out{H.R}}%
12120 \fi
12121 \Hy@RestoreSpaceFactor
12122 \fi
12123 \ifx\pdf@type\Hy@DEST
12124 \else
12125 \pdf@addtoksx{H.B}%
12126 \fi
12127 }

```

All the supplied material is stored in a token list; since I do not feel sure I quite understand these, things may not work as expected with expansion. We'll have to experiment.

```

12128 \newtoks\pdf@toks
12129 \newtoks\pdf@defaulttoks
12130 \pdf@defaulttoks={}%
12131 \def\pdf@addtoks#1#2{%
12132 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
12133 \@processme
12134 }
12135 \def\pdf@addtoksx#1{%
12136 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
12137 \@processme
12138 }
12139 \def\PDFdefaults#1{%
12140 \pdf@defaulttoks={#1}%
12141 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

12142 % what is the type of pdfmark?
12143 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
12144 % what is the link type?
12145 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
12146 \def\pdf@linktype{link}
12147 % named object?
12148 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
12149 \let\pdf@objdef\ltx@empty
12150 % parameter is a stream of PDF
12151 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}

```



```

12152 % parameter is a name
12153 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
12154 % parameter is a array
12155 \define@key{PDF}{Border}{%
12156   \edef\Hy@temp{#1}%
12157   \ifx\Hy@temp\@empty
12158   \else
12159     \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
12160   \fi
12161 }
12162 \let\Hy@BorderArrayPatch\@empty
12163 % parameter is a dictionary
12164 \define@key{PDF}{BorderStyle}{%
12165   \edef\Hy@temp{#1}%
12166   \ifx\Hy@temp\@empty
12167   \else
12168     \pdf@addtoks{<<#1>>}{BS}%
12169   \fi
12170 }
12171 % parameter is a array
12172 \define@key{PDF}{Color}{%
12173   \ifx\relax#1\relax
12174   \else
12175     \pdf@addtoks{[#1]}{Color}% hash-ok
12176   \fi
12177 }
12178 % parameter is a string
12179 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
12180 % parameter is a integer
12181 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
12182 % parameter is a array
12183 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
12184 % parameter is a string
12185 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
12186 % parameter is a string or file
12187 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
12188 % parameter is a destination
12189 \define@key{PDF}{Dest}{%
12190   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12191   \ifx\Hy@pstringDest\@empty
12192     \Hy@pdfmarkerrortrue
12193     \Hy@Warning{Destination with empty name ignored}%
12194   \else
12195     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12196   \fi
12197 }
12198 \define@key{PDF}{DestAnchor}{%
12199   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12200   \ifx\Hy@pstringDest\@empty
12201     \Hy@pdfmarkerrortrue

```

```

12202 \Hy@Warning{Destination with empty name ignored}%
12203 \else
12204 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12205 \fi
12206 }
12207 % parameter is a string
12208 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
12209 % parameter is a string
12210 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
12211 % parameter is a int
12212 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
12213 \define@key{PDF}{PDFAFlags}{%
12214 \ifHy@pdfa
12215 \pdf@addtoks{#1}{F}%
12216 \fi
12217 }
12218 % parameter is a name
12219 \define@key{PDF}{AcroHighlight}{%
12220 \begingroup
12221 \edef\x{#1}%
12222 \expandafter\endgroup\ifx\x\@empty
12223 \else
12224 \pdf@addtoks{#1}{H}%
12225 \fi
12226 }
12227 % parameter is a string
12228 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
12229 % parameter is a string
12230 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
12231 % parameter is a string
12232 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12233 % parameter is a string
12234 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
12235 % parameter is a Boolean
12236 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
12237 % parameter is a integer or name
12238 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
12239 % parameter is a name
12240 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
12241 % parameter is a string
12242 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
12243 % parameter is a array
12244 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
12245 % parameter is a integer
12246 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12247 % parameter is a name
12248 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12249 % parameter is a string
12250 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
12251 % parameter is a string

```

```

12252 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
12253 % parameter is a string
12254 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
12255 % parameter is an array
12256 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
12257 % parameter is a string
12258 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

12259 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
12260 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
12261 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
12262 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12263 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
12264 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
12265 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
12266 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12267 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
12268 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12269 \define@key{PDF}{Trapped}{%
12270   \edef\Hy@temp{#1}%
12271   \ifx\Hy@temp\@empty
12272     \else
12273       \pdf@addtoks{/#1}{Trapped}%
12274     \fi
12275 }
12276
12277 </pdfmarkbase>
12278 <*pdfmark>
12279 \def\Acrobatmenu#1#2{%
12280   \edef\EscapeName\Hy@temp@menu{#1}%
12281   \Hy@Acrobatmenu{#1}{#2}{%
12282     \pdfmark[{#2}]{%
12283       linktype=menu,%
12284       pdfmark=/ANN,%
12285       AcroHighlight=\@pdfhighlight,%
12286       Border=\@pdfborder,%
12287       BorderStyle=\@pdfborderstyle,%
12288       Color=\@menubordercolor,%
12289       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12290       Subtype=/Link,%
12291       PDFAFlags=4%
12292     }%
12293   }%
12294 }

```

And now for some useful examples:

```

12295 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12296 \def\PDFNextPage@[#1]#2{%
12297   \pdfmark[{#2}]{%
12298     #1,%

```

```

12299   Border=\@pdfborder,%
12300   BorderStyle=\@pdfborderstyle,%
12301   Color=.2 .1 .5,%
12302   pdfmark=/ANN,%
12303   Subtype=/Link,%
12304   PDFAFlags=4,%
12305   Page=/Next%
12306 }%
12307 }
12308 \def\PDFPreviousPage{%
12309   \ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12310 }
12311 \def\PDFPreviousPage@[#1]#2{%
12312   \pdfmark[#{#2}]{%
12313     #1,%
12314     Border=\@pdfborder,%
12315     BorderStyle=\@pdfborderstyle,%
12316     Color=.4 .4 .1,%
12317     pdfmark=/ANN,%
12318     Subtype=/Link,%
12319     PDFAFlags=4,%
12320     Page=/Prev%
12321   }%
12322 }
12323 \def\PDFOpen#1{%
12324   \pdfmark{#1,pdfmark=/DOCVIEW}%
12325 }

```

This will only work if you use Distiller 2.1 or higher.

```

12326 \def\hyper@linkurl#1#2{%
12327   \begingroup
12328     \Hy@pstringdef\Hy@pstringURI{#2}%
12329     \hyper@chars
12330     \leavevmode
12331     \pdfmark[#{#1}]{%
12332       pdfmark=/ANN,%
12333       linktype=url,%
12334       AcroHighlight=\@pdfhighlight,%
12335       Border=\@pdfborder,%
12336       BorderStyle=\@pdfborderstyle,%
12337       Color=\@urlbordercolor,%
12338       Action={<<%
12339         /Subtype/URI%
12340         /URI(\Hy@pstringURI)%
12341         \ifHy@href@ismap
12342           /IsMap true%
12343         \fi
12344       >>},%
12345       Subtype=/Link,%
12346       PDFAFlags=4%

```

```

12347 }%
12348 \endgroup
12349 }
12350 \def\hyper@linkfile#1#2#3{%
12351 \begingroup
12352 \def\Hy@pstringF{#2}%
12353 \Hy@CleanupFile\Hy@pstringF
12354 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12355 \Hy@pstringdef\Hy@pstringD{#3}%
12356 \Hy@MakeRemoteAction
12357 \leavevmode
12358 \pdfmark[{#1}]{%
12359 pdfmark=/ANN,%
12360 Subtype=/Link,%
12361 PDFAFlags=4,%
12362 AcroHighlight=\@pdfhighlight,%
12363 Border=\@pdfborder,%
12364 BorderStyle=\@pdfborderstyle,%
12365 linktype=file,%
12366 Color=\@filebordercolor,%
12367 Action={%
12368 <<%
12369 /S/GoToR%
12370 \Hy@SetNewWindow
12371 /F(\Hy@pstringF)%
12372 /D%
12373 \ifx\#3\%
12374 [\Hy@href@page\@pdfremotestartview]%
12375 \else
12376 (\Hy@pstringD)cvn%
12377 \fi
12378 \Hy@href@nextactionraw
12379 >>%
12380 }%
12381 }%
12382 \endgroup
12383 }
12384 \def\@hyper@launch run:#1\#2#3{%
12385 \begingroup
12386 \Hy@pstringdef\Hy@pstringF{#1}%
12387 \Hy@pstringdef\Hy@pstringP{#3}%
12388 \leavevmode
12389 \pdfmark[{#2}]{%
12390 pdfmark=/ANN,%
12391 Subtype=/Link,%
12392 PDFAFlags=4,%
12393 AcroHighlight=\@pdfhighlight,%
12394 Border=\@pdfborder,%
12395 BorderStyle=\@pdfborderstyle,%
12396 linktype=run,%

```

```

12397     Color=\@runbordercolor,%
12398     Action={%
12399         <<%
12400             /S/Launch%
12401             \Hy@SetNewWindow
12402             /F(\Hy@pstringF)%
12403             \ifx\#3\%
12404             \else
12405                 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12406             \fi
12407             \Hy@href@nextactionraw
12408         >>%
12409     }%
12410 }%
12411 \endgroup
12412 }
12413 </pdfmark>

```

Unfortunately, some parts of the `pdfmark` PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

47.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in `SDict`, because we add in some header definitions in a moment.

```

12414 <*dvips>
12415 \providecommand*\XR@ext}{pdf}
12416 \let\Hy@raisedlink\ltx@empty
12417 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12418 \def\headerps@out#1{\special{! #1}}%
12419 \input{pdfmark.def}%
12420 \ifx\@pdfproducer\relax
12421   \def\@pdfproducer{dvips + Distiller}%
12422 \fi
12423 \providecommand*\@pdfborder{0 0 1}
12424 \providecommand*\@pdfborderstyle{}
12425 \providecommand*\@pdfview{XYZ}
12426 \providecommand*\@pdfviewparams{ H.V}
12427 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12428 \g@addto@macro\Hy@FirstPageHook{%
12429   \headerps@out{%

```

Unless I am going mad, this *appears* to be the relationship between the default coordinate system (PDF), and dvips;

```

/DvipsToPDF { .01383701 div Resolution div } def
/PDFToDvips { .01383701 mul Resolution mul } def

```

the latter's coordinates are resolution dependent, but what that .01383701 is, who knows? well, almost everyone except me, I expect...And yes, Maarten Gelderman <mgelderman@econ.vu.nl> points out that its $1/72.27$ (the number of points to an inch, big points to inch is $1/72$). This also suggests that the code would be more understandable (and exact) if 0.013 div would be replaced by 72.27 mul, so here we go. If this isn't right, I'll revert it.

```
12430 /DvipsToPDF{72.27 mul Resolution div} def%
12431 /PDFToDvips{72.27 div Resolution mul} def%
12432 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
12433 /BorderArrayPatch{%
12434   [exch{%
12435     dup dup type/integertype eq exch type/realtype eq or%
12436     {BPToDvips}if%
12437   }forall]%
12438 }def%
```

The rectangle around the links starts off *exactly* the size of the box; we will to make it slightly bigger, 1 point on all sides.

```
12439 /HyperBorder {1 PDFToDvips} def%
12440 /H.V {pdf@hoff pdf@voff null} def%
12441 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%
```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates

```
12442 /H.S {%
12443   currentpoint %
12444   HyperBorder add /pdf@lly exch def %
12445   dup DvipsToPDF 72 add /pdf@hoff exch def %
12446   HyperBorder sub /pdf@llx exch def%
12447 } def%
```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The x and y coordinates of the current point, minus the `baselineskip`

```
12448 /H.L {%
12449   2 sub dup%
12450   /HyperBasePt exch def %
12451   PDFToDvips /HyperBaseDvips exch def %
12452   currentpoint %
12453   HyperBaseDvips sub /pdf@ury exch def%
12454   /pdf@urx exch def%
12455 } def%
```

```

12456 /H.A {%
12457   H.L %
12458 % | /pdf@voff| = the distance from the top of the page to a point
12459 % | \baselineskip| above the current point in PDF coordinates
12460   currentpoint exch pop %
12461   vsize 72 sub exch DvipsToPDF %
12462   HyperBasePt sub % baseline skip
12463   sub /pdf@voff exch def%
12464 } def%
12465 /H.R {%
12466   currentpoint %
12467   HyperBorder sub /pdf@ury exch def %
12468   HyperBorder add /pdf@urx exch def %
12469 % | /pdf@voff| = the distance from the top of the page to the current point, in
12470 % PDF coordinates
12471   currentpoint exch pop vsize 72 sub %
12472   exch DvipsToPDF sub /pdf@voff exch def%
12473 } def%
12474 }%
12475 }
12476 \AtBeginShipoutFirst{%
12477   \ifHy@setpagesize
12478     \begingroup
12479     \@ifundefined{stockwidth}{%
12480       \ifdim\paperwidth>\z@
12481         \ifdim\paperheight>\z@
12482           \special{papersize=\the\paperwidth,\the\paperheight}%
12483         \fi
12484       \fi
12485     }{%
12486       \ifdim\stockwidth>\z@
12487         \ifdim\stockheight>\z@
12488           \special{papersize=\the\stockwidth,\the\stockheight}%
12489         \fi
12490       \fi
12491     }%
12492   \endgroup
12493   \fi
12494   \Hy@DisableOption{setpagesize}%
12495 }
12496 \def\setpdfinkmargin#1{%
12497   \begingroup
12498   \setlength{\dimen@}{#1}%
12499   \literalps@out{%
12500     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12501   }%
12502   \endgroup
12503 }
12504 </dvips>

```


47.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the y axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

12505 (*vtexpdfmark)
12506 \providecommand*\XR@ext}{pdf}
12507 \let\Hy@raisedlink\ltx@empty
12508 \def\literalps@out#1{\special{pS:#1}}%
12509 \def\headerps@out#1{\immediate\special{pS:#1}}%
12510 \input{pdfmark.def}%
12511 \ifx\@pdfproducer\relax
12512   \ifnum\OpMode=\@ne
12513     \def\@pdfproducer{VTeX}%
12514   \else
12515     \def\@pdfproducer{VTeX + Distiller}%
12516   \fi
12517 \fi
12518 \providecommand*\@pdfborder{0 0 1}
12519 \providecommand*\@pdfborderstyle{}
12520 \providecommand*\@pdfview{XYZ}
12521 \providecommand*\@pdfviewparams{ H.V}
12522 \g@addto@macro\Hy@FirstPageHook{%
12523   \headerps@out{%
12524     /vsize {\Hy@pageheight} def%

```

The rectangle around the links starts off *exactly* the size of the box; we will to make it slightly bigger, 1 point on all sides.

```

12525   /HyperBorder {1} def%
12526   /H.V {pdf@hoff pdf@voff null} def%
12527   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12528   /H.S {%
12529     currentpoint %
12530     HyperBorder sub%
12531     /pdf@lly exch def %
12532     dup 72 add /pdf@hoff exch def %
12533     HyperBorder sub%
12534     /pdf@llx exch def%
12535   } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12536   /H.L {%
12537     2 sub%
12538     /HyperBasePt exch def %

```

```

12539    currentpoint %
12540    HyperBasePt add HyperBorder add%
12541    /pdf@ury exch def %
12542    HyperBorder add%
12543    /pdf@urx exch def%
12544    } def%
12545    /H.A {%
12546    H.L %
12547    currentpoint exch pop %
12548    vsize 72 sub exch %
12549    HyperBasePt add add%
12550    /pdf@voff exch def%
12551    } def%

pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
12552    /H.R {%
12553    currentpoint %
12554    HyperBorder add%
12555    /pdf@ury exch def %
12556    HyperBorder add%
12557    /pdf@urx exch def %
12558    currentpoint exch pop vsize 72 sub add%
12559    /pdf@voff exch def%
12560    } def%
12561    }%
12562    }

12563    \def\setpdfinkmargin#1{%
12564    \begingroup
12565    \setlength{\dimen@}{#1}%
12566    \literalps@out{%
12567    /HyperBorder{\strip@pt\dimen@}def%
12568    }%
12569    \endgroup
12570    }

12571    \</vtxpdfmark>

```

47.11 Textures

```

12572    \<*textures>
12573    \providecommand*\XR@ext\{pdf}

```

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

\Hy@ps@CR The macro \Hy@ps@CR contains the end-of-line character.

```

12574 \begingroup
12575 \obeylines %
12576 \gdef\Hy@ps@CR{\noexpand
12577 }%
12578 \endgroup %

```

Textures has two types of `\special` command for inserting PostScript code directly into the dvi output. The ‘postscript’ way preserves TeX’s idea of where on the page the `\special` occurred, but it wraps the contents with a **save–restore** pair, and adjusts the user-space coordinate system for local drawing commands. The ‘rawpostscript’ way simply inserts code, without regard for the location on the page.

Thus, to put arbitrary PostScript coding at a fixed location requires using *both* `\special` constructions. It works by pushing the device-space coordinates onto the operand stack, where they can be used to transform back to the correct user-space coordinates for the whole page, within a ‘rawpostscript’ `\special`.

```

12579 \def\literalps@out#1{%
12580 \special{postscript 0 0 transform}%
12581 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12582 }%
12583 %

```

The ‘prepostscript’ is a 3rd kind of `\special`, used for inserting definitions into the dictionaries, before page-building begins. These are to be available for use on all pages.

```

12584 \def\headerps@out#1{%
12585 \special{%
12586 prepostscript TeXdict begin\Hy@ps@CR
12587 #1\Hy@ps@CR
12588 end%
12589 }%
12590 }%
12591 %

```

To correctly support the `pdfmark` method, for embedding PDF definitions with .ps files in a non-intrusive way, an appropriate definition needs to be made *before* the file `pdfmark.def` is read. Other parameters are best set afterwards.

```

12592 \g@addto@macro\Hy@FirstPageHook{%
12593 \headerps@out{%
12594 /betterpdfmark {%
12595 systemdict begin %
12596 dup /BP eq%
12597 {cleartomark gsave nulldevice []}%
12598 {dup /EP eq%
12599 {cleartomark cleartomark grestore}%
12600 {cleartomark}%
12601 ifelse%
12602 }ifelse %

```

```

12603     end%
12604   }def\Hy@ps@CR
12605   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12606 }% end of \headerps@out
12607 }% end of \AtBeginShipoutFirst
12608 %
12609 \input{pdfmark.def}%
12610 %
12611 \ifx\@pdfproducer\relax
12612   \def\@pdfproducer{Textures + Distiller}%
12613 \fi
12614 \providecommand*\@pdfborder{0 0 1}
12615 \providecommand*\@pdfborderstyle{}
12616 \providecommand*\@pdfview{XYZ}
12617 \providecommand*\@pdfviewparams{ H.V}
12618 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. The `Rect` pair are called at the LL and UR corners of a box known to \TeX .

```

12619 \Hy@AtBeginDocument{%
12620   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12621   /vsize {\Hy@pageheight} def%
12622   /DvipsToPDF {} def%
12623   /PDFToDvips {} def%
12624   /BPToDvips {} def%
12625   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12626   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12627   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12628   /H.S {%
12629     currentpoint %
12630     HyperBorder add /pdf@lly exch def %
12631     dup DvipsToPDF 72 add /pdf@hoff exch def %
12632     HyperBorder sub /pdf@llx exch def%
12633   } def\Hy@ps@CR
12634   /H.L {%
12635     2 sub %
12636     PDFToDvips /HyperBase exch def %
12637     currentpoint %
12638     HyperBase sub /pdf@ury exch def%
12639     /pdf@urx exch def%
12640   } def\Hy@ps@CR
12641   /H.A {%
12642     H.L %
12643     currentpoint exch pop %

```

```

12644     vsize 72 sub exch DvipsToPDF %
12645     HyperBase sub % baseline skip
12646     sub /pdf@voff exch def%
12647   } def\Hy@ps@CR
12648   /H.R {%
12649     currentpoint %
12650     HyperBorder sub /pdf@ury exch def %
12651     HyperBorder add /pdf@urx exch def %
12652     currentpoint exch pop vsize 72 sub %
12653     exch DvipsToPDF sub /pdf@voff exch def%
12654   } def\Hy@ps@CR
12655 }%
12656 }

12657 \def\setpdfinkmargin#1{%
12658   \begingroup
12659     \setlength{\dimen@}{#1}%
12660     \literalps@out{%
12661       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12662     }%
12663   \endgroup
12664 }

12665 \Hy@AtBeginDocument{%
12666   \ifHy@colorlinks
12667     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12668   \fi
12669 }

```

Textures provides built-in support for HyperTeX specials so this part combines code from `hypertex.def` with what is established by loading `pdfmark.def`, or any other driver.

```

12670 \expandafter\let\expandafter\keepPDF@SetupDoc
12671   \csname PDF@SetupDoc\endcsname
12672 \def\PDF@SetupDoc{%
12673   \ifx\@baseurl\@empty
12674     \else
12675     \special{html:<base href="\@baseurl">}%
12676   \fi
12677   \keepPDF@SetupDoc
12678 }

12679 \Hy@WrapperDef\hyper@anchor#1{%
12680   \Hy@SaveLastskip
12681   \Hy@VerboseAnchor{#1}%
12682   \begingroup
12683     \let\protect=\string
12684     \special{html:<a name=%
12685       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12686   \endgroup
12687   \Hy@activeanchortrue
12688   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink

```

```

12689 \special{html:</a>}%
12690 \Hy@activeanchorfalse
12691 \Hy@RestoreLastskip
12692 }
12693 \Hy@WrapperDef\hyper@anchorstart#1{%
12694 \Hy@SaveLastskip
12695 \Hy@VerboseAnchor{#1}%
12696 \begingroup
12697 \hyper@chars
12698 \special{html:<a name=%
12699 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12700 \endgroup
12701 \Hy@activeanchortrue
12702 }
12703 \def\hyper@anchorend{%
12704 \special{html:</a>}%
12705 \Hy@activeanchorfalse
12706 \Hy@RestoreLastskip
12707 }
12708 \def\@urlltype{url}
12709 \def\hyper@linkstart#1#2{%
12710 \Hy@VerboseLinkStart{#1}{#2}%
12711 \expandafter\Hy@colorlink\csname @#1color\endcsname
12712 \def\Hy@tempa{#1}%
12713 \ifx\Hy@tempa\@urlltype
12714 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12715 \else
12716 \begingroup
12717 \hyper@chars
12718 \special{%
12719 html:<a href=%
12720 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12721 }%
12722 \endgroup
12723 \fi
12724 }
12725 \def\hyper@linkend{%
12726 \special{html:</a>}%
12727 \Hy@endcolorlink
12728 }
12729 \def\hyper@linkfile#1#2#3{%
12730 \hyper@linkurl{#1}{%
12731 \Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi
12732 }%
12733 }
12734 \def\hyper@linkurl#1#2{%
12735 \leavevmode
12736 \ifHy@raiselinks
12737 \Hy@SaveSpaceFactor
12738 \Hy@SaveSavedSpaceFactor

```

```

12739 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12740 \Hy@RestoreSavedSpaceFactor
12741 \@linkdim\dp\@tempboxa
12742 \lower\@linkdim\hbox{%
12743   \hyper@chars
12744   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12745 }%
12746 \Hy@colorlink\@urlcolor
12747 \Hy@RestoreSpaceFactor
12748 #1\Hy@xspace@end
12749 \Hy@SaveSpaceFactor
12750 \@linkdim\ht\@tempboxa
12751 \advance\@linkdim by -6.5\p@
12752 \raise\@linkdim\hbox{\special{html:</a>}}%
12753 \Hy@endcolorlink
12754 \Hy@RestoreSpaceFactor
12755 \else
12756 \begingroup
12757   \hyper@chars
12758   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12759   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12760   \special{html:</a>}}%
12761   \Hy@endcolorlink
12762 \endgroup
12763 \fi
12764 }

```

Very poor implementation of \hyper@link without considering #1.

```

12765 \def\hyper@link#1#2#3{%
12766   \Hy@VerboseLinkStart{#1}{#2}%
12767   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12768 }
12769 \def\hyper@image#1#2{%
12770   \begingroup
12771     \hyper@chars
12772     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12773   \endgroup
12774 }
12775 </textures>

```

47.12 dvipsone

```

12776 % \subsection{dvipsone driver}
12777 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12778 % |\special| commands.
12779 (*dvipsone)
12780 \providecommand*\XR@ext}{pdf}
12781 \let\Hy@raisedlink\ltx@empty
12782 \providecommand*\@pdfborder{0 0 1}
12783 \providecommand*\@pdfborderstyle{}

```

```

12784 \def\literalps@out#1{\special{ps:#1}}%
12785 \def\headerps@out#1{\special{headertext=#1}}%
12786 \input{pdfmark.def}%
12787 \ifx\@pdfproducer\relax
12788 \def\@pdfproducer{dvipsone + Distiller}%
12789 \fi
12790 \HyInfo@AddonUnsupportedtrue
12791 \def\PDF@FinishDoc{%
12792 \Hy@UseMaketitleInfos
12793 \HyInfo@TrappedUnsupported
12794 \special{PDF: Keywords \@pdfkeywords}%
12795 \special{PDF: Title \@pdftitle}%
12796 \special{PDF: Creator \@pdfcreator}%
12797 \ifx\@pdfcreationdate\@empty
12798 \else
12799 \special{PDF: CreationDate \@pdfcreationdate}%
12800 \fi
12801 \ifx\@pdfmoddate\@empty
12802 \else
12803 \special{PDF: ModDate \@pdfmoddate}%
12804 \fi
12805 \special{PDF: Author \@pdfauthor}%
12806 \ifx\@pdfproducer\relax
12807 \else
12808 \special{PDF: Producer \@pdfproducer}%
12809 \fi
12810 \special{PDF: Subject \@pdfsubject}%
12811 \Hy@DisableOption{pdfauthor}%
12812 \Hy@DisableOption{pdftitle}%
12813 \Hy@DisableOption{pdfsubject}%
12814 \Hy@DisableOption{pdfcreator}%
12815 \Hy@DisableOption{pdfcreationdate}%
12816 \Hy@DisableOption{pdfmoddate}%
12817 \Hy@DisableOption{pdfproducer}%
12818 \Hy@DisableOption{pdfkeywords}%
12819 \Hy@DisableOption{pdftrapped}%
12820 \Hy@DisableOption{pdfinfo}%
12821 }
12822 \def\PDF@SetupDoc{%
12823 \def\Hy@temp{}%
12824 \ifx\@pdfstartpage\@empty
12825 \else
12826 \ifx\@pdfstartview\@empty
12827 \else
12828 \edef\Hy@temp{%
12829 ,Page=\@pdfstartpage
12830 ,View=\@pdfstartview
12831 }%
12832 \fi
12833 \fi

```



```

12834 \edef\Hy@temp{%
12835   \noexpand\pdfmark{%
12836     pdfmark=/DOCVIEW,%
12837     PageMode=/\@pdfpagemode
12838     \Hy@temp
12839   }%
12840 }%
12841 \Hy@temp
12842 \ifx\@pdfpagescrop\@empty
12843 \else
12844   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12845 \fi
12846 \edef\Hy@temp{%
12847   \ifHy@pdftoolbar\else /HideToolbar true\fi
12848   \ifHy@pdfmenubar\else /HideMenubar true\fi
12849   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12850   \ifHy@pdfitwindow /FitWindow true\fi
12851   \ifHy@pdfcenterwindow /CenterWindow true\fi
12852   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12853   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12854   \Hy@UseNameKey{Direction}\@pdfdirection
12855   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12856   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12857   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12858   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12859   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12860   \Hy@UseNameKey{Duplex}\@pdfduplex
12861   \ifx\@pdfpicktraybypdfsize\@empty
12862   \else
12863     /PickTrayByPDFSize \@pdfpicktraybypdfsize
12864   \fi
12865   \ifx\@pdfprintpagerange\@empty
12866   \else
12867     /PrintPageRange[\@pdfprintpagerange]%
12868   \fi
12869   \ifx\@pdfnumcopies\@empty
12870   \else
12871     /NumCopies \@pdfnumcopies
12872   \fi
12873 }%
12874 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12875 \pdfmark{%
12876   pdfmark=/PUT,%
12877   Raw={%
12878     \string{Catalog}\string}<<%
12879     \ifx\Hy@temp\@empty
12880     \else
12881       /ViewerPreferences<<\Hy@temp>>%
12882     \fi
12883     \Hy@UseNameKey{PageLayout}\@pdfpagelayout

```

```

12884    \ifx\@pdflang\relax
12885    \else
12886        /Lang(\@pdflang)%
12887    \fi
12888    \ifx\@baseurl\@empty
12889    \else
12890        /URI<</Base(\Hy@pstringB)>>%
12891    \fi
12892    >>%
12893    }%
12894    }%
12895    }
12896    \providecommand*\@pdfview{XYZ}
12897    \providecommand*\@pdfviewparams{ %
12898        gsave revscl currentpoint grestore %
12899        72 add exch pop null exch null%
12900    }
12901    \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to \TeX .

```

12902    \g@addto@macro\Hy@FirstPageHook{%
12903        \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12904        /DvipsToPDF { 65781 div } def%
12905        /PDFToDvips { 65781 mul } def%
12906        /BPToDvips{65781 mul}def%
12907        /HyperBorder { 1 PDFToDvips } def%
12908        /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

The values inside the `/Boder` array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

12909        /BorderArrayPatch{%
12910            [exch{%
12911                dup dup type/integertype eq exch type/realtype eq or%
12912                {BPToDvips}if%
12913            }forall]%
12914        }def%
12915        /H.S {%
12916            currentpoint %
12917            HyperBorder add /pdf@lly exch def %
12918            dup DvipsToPDF 72 add /pdf@hoff exch def %
12919            HyperBorder sub /pdf@llx exch def%
12920        } def%
12921        /H.L {%
12922            2 sub %

```

```

12923   PDFToDvips /HyperBase exch def %
12924   currentpoint %
12925   HyperBase sub /pdf@ury exch def%
12926   /pdf@urx exch def%
12927 } def%
12928 /H.A {%
12929   H.L %
12930   currentpoint exch pop %
12931   HyperBase sub % baseline skip
12932   DvipsToPDF /pdf@voff exch def%
12933 } def%
12934 /H.R {%
12935   currentpoint %
12936   HyperBorder sub /pdf@ury exch def %
12937   HyperBorder add /pdf@urx exch def %
12938   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12939 } def%
12940 }%
12941 }

12942 \def\setpdfinkmargin#1{%
12943   \begingroup
12944     \setlength{\dimen@}{#1}%
12945     \literalpsout{%
12946       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12947     }%
12948   \endgroup
12949 }

12950 </dvipsone>

```

47.13 TeX4ht

```

12951 <*tex4ht>
12952 \providecommand*\XR@ext>{html}
12953 \let\Hy@raisedlink\ltx@empty
12954 \@ifpackageloaded{tex4ht}{%
12955   \Hy@InfoNoLine{tex4ht is already loaded}%
12956 }{%
12957   \RequirePackage[hTeX4ht]{tex4ht}%
12958 }
12959 \hyperlinkfileprefix{}
12960 \let\PDF@FinishDoc\ltx@empty
12961 \def\PDF@SetupDoc{%
12962   \ifx\@baseurl\@empty
12963     \else
12964       \special{t4ht=<base href="\@baseurl">}%
12965     \fi
12966 }
12967 \Hy@WrapperDef\hyper@anchor#1{%
12968   \Hy@SaveLastskip
12969   \Hy@VerboseAnchor{#1}%

```

```

12970 \begingroup
12971 \let\protect=\string
12972 \special{t4ht=<a name=%
12973     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12974 \endgroup
12975 \Hy@activeanchortrue
12976 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12977 \special{t4ht=</a>}%
12978 \Hy@activeanchorfalse
12979 \Hy@RestoreLastskip
12980 }
12981 \Hy@WrapperDef\hyper@anchorstart#1{%
12982 \Hy@SaveLastskip
12983 \Hy@VerboseAnchor{#1}%
12984 \begingroup
12985 \hyper@chars\special{t4ht=<a name=%
12986     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12987 \endgroup
12988 \Hy@activeanchortrue
12989 }
12990 \def\hyper@anchorend{%
12991 \special{t4ht=</a>}%
12992 \Hy@activeanchorfalse
12993 \Hy@RestoreLastskip
12994 }
12995 \def\@urltype{url}
12996 \def\hyper@linkstart#1#2{%
12997 \Hy@VerboseLinkStart{#1}{#2}%
12998 \expandafter\Hy@colorlink\csname @#1color\endcsname
12999 \def\Hy@tempa{#1}%
13000 \ifx\Hy@tempa\@urltype
13001 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13002 \else
13003 \begingroup
13004 \hyper@chars
13005 \special{t4ht=<a href=%
13006     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
13007 \endgroup
13008 \fi
13009 }
13010 \def\hyper@linkend{%
13011 \special{t4ht=</a>}%
13012 \Hy@endcolorlink
13013 }
13014 \def\hyper@linkfile#1#2#3{%
13015 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
13016 }
13017 \def\hyper@linkurl#1#2{%
13018 \leavevmode
13019 \ifHy@raiselinks

```

```

13020 \Hy@SaveSpaceFactor
13021 \Hy@SaveSavedSpaceFactor
13022 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
13023 \Hy@RestoreSavedSpaceFactor
13024 \@linkdim\dp\@tempboxa
13025 \lower\@linkdim\hbox{%
13026   \begingroup
13027     \hyper@chars
13028     \special{%
13029       t4ht=<a href=\hyper@quote#2\hyper@quote>%
13030     }%
13031   \endgroup
13032 }%
13033 \Hy@colorlink\@urlcolor
13034 \Hy@RestoreSpaceFactor
13035 #1\Hy@xspace@end
13036 \Hy@SaveSpaceFactor
13037 \Hy@endcolorlink
13038 \@linkdim\ht\@tempboxa
13039 \advance\@linkdim by -6.5\p@
13040 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
13041 \Hy@RestoreSpaceFactor
13042 \else
13043 \begingroup
13044 \hyper@chars
13045 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13046 \Hy@colorlink\@urlcolor
13047 #1\Hy@xspace@end
13048 \Hy@endcolorlink
13049 \special{t4ht=</a>}%
13050 \endgroup
13051 \fi
13052 }

Poor implementation of \hyper@link without considering #1.
13053 \def\hyper@link#1#2#3{%
13054   \Hy@VerboseLinkStart{#1}{#2}%
13055   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
13056 }
13057 \def\hyper@image#1#2{%
13058   \begingroup
13059     \hyper@chars
13060     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
13061   \endgroup
13062 }
13063 \let\autoref\ref
13064 \ifx \rEFLiNK \UnDef
13065   \def\rEFLiNK #1#2{#2}%
13066 \fi
13067 \let\backref\ltx@gobble

```

```

Fix for tex4ht.
13068 \AtBeginDocument{%
13069   \expandafter
13070   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
13071   \expandafter\def\csname Make:Label\endcsname#1#2{%
13072     \ifhmode
13073       \Hy@SaveSpaceFactor
13074     \else
13075       \global\Hy@SavedSpaceFactor=1000 %
13076     \fi
13077     \Hy@OrgMakeLabel{#1}{%
13078       \Hy@RestoreSpaceFactor
13079       #2\Hy@xspace@end%
13080     \Hy@SaveSpaceFactor
13081   }%
13082   \Hy@RestoreSpaceFactor
13083 }%
13084 }
13085 </tex4ht>
13086 <*tex4htcfg>
13087 \IfFileExists{\jobname.cfg}{\endinput}{}
13088 \Preamble{html}
13089   \begin{document}%
13090 \EndPreamble
13091 \def\TeX{\TeX}
13092 \def\OMEGA{\Omega}
13093 \def\LaTeX{\LaTeX}
13094 \def\LaTeXe{\LaTeX2e}
13095 \def\eTeX{e-TeX}
13096 \def\MF{Metafont}
13097 \def\MP{MetaPost}
13098 </tex4htcfg>

```

48 Driver-specific form support

48.1 pdfmarks

```

13099 <*pdfmark>
13100 \long\def\@Form[#1]{%
13101   \g@addto@macro\Hy@FirstPageHook{%
13102     \headerps@out{%
13103 [%
13104   /_objdef{pdfDocEncoding}%
13105   /type/dict%
13106   /OBJ pdfmark%
13107 [%
13108   {pdfDocEncoding}%
13109   <<%
13110   /Type/Encoding%
13111   /Differences[%

```

13112 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
13113 /tilde %
13114 39/quotesingle %
13115 96/grave %
13116 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13117 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13118 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13119 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
13120 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13121 164/currency %
13122 166/brokenbar %
13123 168/dieresis/copyright/ordfeminine %
13124 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13125 /twosuperior/threesuperior/acute/mu %
13126 183/periodcentered/cedilla/onesuperior/ordmasculine %
13127 188/onequarter/onehalf/threequarters %
13128 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13129 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13130 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13131 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13132 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13133 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13134 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13135 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13136 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
13137 /ucircumflex/udieresis/yacute/thorn/ydieresis%
13138]%
13139 >>%
13140 /PUT pdfmark%
13141 [%
13142 /_objdef{ZaDb}%
13143 /type/dict%
13144 /OBJ pdfmark%
13145 [%
13146 {ZaDb}%
13147 <<%
13148 /Type/Font%
13149 /Subtype/Type1%
13150 /Name/ZaDb%
13151 /BaseFont/ZapfDingbats%
13152 >>%
13153 /PUT pdfmark%
13154 [%
13155 /_objdef{Helv}%
13156 /type/dict%
13157 /OBJ pdfmark%
13158 [%
13159 {Helv}%
13160 <<%
13161 /Type/Font%

```

13162 /Subtype/Type1%
13163 /Name/Helv%
13164 /BaseFont/Helvetica%
13165 /Encoding{pdfDocEncoding}%
13166 >>%
13167 /PUT pdfmark%
13168 [%
13169 /_objdef{aform}%
13170 /type/dict%
13171 /OBJ pdfmark%
13172 [%
13173 /_objdef{afields}%
13174 /type/array%
13175 /OBJ pdfmark%
13176 [%
13177 /_objdef{corder}%
13178 /type/array%
13179 /OBJ pdfmark%
13180 {%
13181 [%
13182 /BBox[0 0 100 100]%
13183 /_objdef{Check}%
13184 /BP pdfmark %
13185 1 0 0 setrgbcolor%
13186 /ZapfDingbats 80 selectfont %
13187 20 20 moveto%
13188 (4)show%
13189 [/EP pdfmark%
13190 [%
13191 /BBox[0 0 100 100]%
13192 /_objdef{Cross}%
13193 /BP pdfmark %
13194 1 0 0 setrgbcolor%
13195 /ZapfDingbats 80 selectfont %
13196 20 20 moveto%
13197 (8)show%
13198 [/EP pdfmark%
13199 [%
13200 /BBox[0 0 250 100]%
13201 /_objdef{Submit}%
13202 /BP pdfmark %
13203 0.6 setgray %
13204 0 0 250 100 rectfill %
13205 1 setgray %
13206 2 2 moveto %
13207 2 98 lineto %
13208 248 98 lineto %
13209 246 96 lineto %
13210 4 96 lineto %
13211 4 4 lineto %

```



```

13212 fill %
13213 0.34 setgray %
13214 248 98 moveto %
13215 248 2 lineto %
13216 2 2 lineto %
13217 4 4 lineto %
13218 246 4 lineto %
13219 246 96 lineto %
13220 fill%
13221 /Helvetica 76 selectfont %
13222 0 setgray %
13223 8 22.5 moveto%
13224 (Submit)show%
13225 [/EP pdfmark%
13226 [%
13227 /BBox[0 0 250 100]%
13228 /_objdef{SubmitP}%
13229 /BP pdfmark %
13230 0.6 setgray %
13231 0 0 250 100 rectfill %
13232 0.34 setgray %
13233 2 2 moveto %
13234 2 98 lineto %
13235 248 98 lineto %
13236 246 96 lineto %
13237 4 96 lineto %
13238 4 4 lineto %
13239 fill %
13240 1 setgray %
13241 248 98 moveto %
13242 248 2 lineto %
13243 2 2 lineto %
13244 4 4 lineto %
13245 246 4 lineto %
13246 246 96 lineto %
13247 fill%
13248 /Helvetica 76 selectfont %
13249 0 setgray %
13250 10 20.5 moveto%
13251 (Submit)show%
13252 [/EP pdfmark%
13253 } ?pdfmark%
13254 [%
13255 {aform}%
13256 <<%
13257 /Fields{afields}%
13258 /DR<<%
13259 /Font<<%
13260 /ZaDb{ZaDb}%
13261 /Helv{Helv}%

```

```

13262     >>%
13263 >>%
13264 /DA(/Helv 10 Tf 0 g)%
13265 /CO{corder}%
13266 \ifHy@pdfa
13267 \else
13268   \ifHyField@NeedAppearances
13269     /NeedAppearances true%
13270   \fi
13271 \fi
13272 >>%
13273 /PUT pdfmark%
13274 [%
13275   {Catalog}%
13276   <<%
13277     /AcroForm{aform}%
13278   >>%
13279 /PUT pdfmark%
13280 }]%
13281 \kvsetkeys{Form}{#1}%
13282 }
13283 \let\@endForm\ltx@empty
13284 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13285   \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13286 }

13287 \newcount\HyField@AnnotCount
13288 \HyField@AnnotCount=\z@
13289 \def\HyField@AdvanceAnnotCount{%
13290   \global\advance\HyField@AnnotCount\@ne
13291 }
13292 \def\HyField@TheAnnotCount{%
13293   \the\HyField@AnnotCount
13294 }

13295 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
13296 \def\HyField@AddToFields#1{%
13297   \pdfmark{%
13298     pdfmark=/APPEND,%
13299     Raw={%
13300       \string{afields\string}%
13301       \string{#1\HyField@TheAnnotCount\string}%
13302     }%
13303   }%
13304   \ifx\Fld@calculate@code\ltx@empty
13305   \else
13306     \pdfmark{%
13307       pdfmark=/APPEND,%
13308       Raw={%
13309         \string{corder\string}%
13310         \string{#1\HyField@TheAnnotCount\string}%

```

```

13311    }%
13312    }%
13313  \fi
13314 }

13315 \def\@TextField[#1]#2{% parameters, label
13316   \def\Fld@name{#2}%
13317   \let\Fld@default\ltx@empty
13318   \let\Fld@value\@empty
13319   \def\Fld@width{\DefaultWidthofText}%
13320   \def\Fld@height{%
13321     \ifFld@multiline
13322       \DefaultHeightofTextMultiline
13323     \else
13324       \DefaultHeightofText
13325     \fi
13326   }%
13327   \begingroup
13328     \expandafter\HyField@SetKeys\expandafter{%
13329       \DefaultOptionsofText,#1%
13330     }%
13331     \HyField@FlagsText
13332     \ifFld@hidden\def\Fld@width{1sp}\fi
13333     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13334     \HyField@AdvanceAnnotCount
13335     \LayoutTextField{#2}{%
13336       \leavevmode
13337       \Hy@escapeform\PDFForm@Text
13338       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13339         pdfmark=/ANN,%
13340         objdef=text\HyField@TheAnnotCount,%
13341         Raw={\PDFForm@Text}%
13342       }%
13343     }%
13344     \HyField@AddToFields{text}%
13345   \endgroup
13346 }

13347 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13348   \def\Fld@name{#2}%
13349   \let\Fld@default\relax
13350   \let\Fld@value\relax
13351   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13352   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13353   \begingroup
13354     \Fld@menulength=0 %
13355     \@tempdima\z@
13356     \@for\@curropt:=#3\do{%
13357       \expandafter\Fld@checkequals\@curropt==\%
13358       \Hy@StepCount\Fld@menulength
13359       \settowidth{\@tempdimb}{\@currDisplay}%

```

```

13360 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13361 }%
13362 \advance\@tempdima by 15\p@
13363 \begingroup
13364 \HyField@SetKeys{#1}%
13365 \edef\x{\endgroup
13366 \noexpand\expandafter
13367 \noexpand\HyField@SetKeys
13368 \noexpand\expandafter{%
13369 \expandafter\noexpand\cname DefaultOptionsof%
13370 \ifFld@radio
13371 Radio%
13372 \else
13373 \ifFld@combo
13374 \ifFld@popdown
13375 PopdownBox%
13376 \else
13377 ComboBox%
13378 \fi
13379 \else
13380 ListBox%
13381 \fi
13382 \fi
13383 \endcsname
13384 }%
13385 }\x
13386 \HyField@SetKeys{#1}%
13387 \ifFld@hidden\def\Fld@width{1sp}\fi
13388 \ifx\Fld@value\relax
13389 \let\Fld@value\Fld@default
13390 \fi
13391 \LayoutChoiceField{#2}{%
13392 \ifFld@radio
13393 \HyField@FlagsRadioButton
13394 \@@Radio{#3}%
13395 \else
13396 \begingroup
13397 \HyField@FlagsChoice
13398 \ifdim\Fld@width<\@tempdima
13399 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13400 \edef\Fld@width{\the\@tempdima}%
13401 \fi
13402 \ifFld@combo
13403 \else
13404 \@tempdima=\the\Fld@menulength\Fld@charsize
13405 \advance\@tempdima by \Fld@borderwidth bp %
13406 \advance\@tempdima by \Fld@borderwidth bp %
13407 \edef\Fld@height{\the\@tempdima}%
13408 \fi
13409 \@@Listbox{#3}%

```

```

13410     \endgroup
13411     \fi
13412 }%
13413 \endgroup
13414 }
13415 \def\@@Radio#1{%
13416   \Fld@listcount=0 %
13417   \EdefEscapeName\Fld@default{\Fld@default}%
13418   \@for\@curropt:=#1\do{%
13419     \expandafter\Fld@checkequals\@curropt==\\%
13420     \EdefEscapeName\@currValue{\@currValue}%
13421     \Hy@StepCount\Fld@listcount
13422     \@currDisplay\space
13423     \Hy@escapeform\PDFForm@Radio
13424     \ifnum\Fld@listcount=1 %
13425       \HyField@AdvanceAnnotCount
13426     \fi
13427     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13428       pdfmark=/ANN,%
13429       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
13430       Raw={%
13431         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13432       }%
13433     } % deliberate space between radio buttons
13434     \ifnum\Fld@listcount=1 %
13435       \HyField@AddToFields{radio}%
13436     \fi
13437   }%
13438 }
13439 \newcount\Fld@listcount
13440 \def\@@Listbox#1{%
13441   \HyField@PDFChoices{#1}%
13442   \Hy@escapeform\PDFForm@List
13443   \HyField@AdvanceAnnotCount
13444   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13445     pdfmark=/ANN,%
13446     objdef=list\HyField@TheAnnotCount,%
13447     Raw={\PDFForm@List}%
13448   }%
13449   \HyField@AddToFields{list}%
13450 }
13451 \def\@PushButton[#1]#2{% parameters, label
13452   \def\Fld@name{#2}%
13453   \begingroup
13454     \expandafter\HyField@SetKeys\expandafter{%
13455       \DefaultOptionsofPushButton,#1%
13456     }%
13457     \ifHy@pdfa
13458       \Hy@Error{%
13459         PDF/A: Push button with JavaScript is prohibited%

```

```

13460     }\@ehc
13461     \LayoutPushButtonField{%
13462         \leavevmode
13463         \MakeButtonField{#2}%
13464     }%
13465 \else
13466     \HyField@FlagsPushButton
13467     \ifFld@hidden\def\Fld@width{1sp}\fi
13468     \HyField@AdvanceAnnotCount
13469     \LayoutPushButtonField{%
13470         \leavevmode
13471         \Hy@escapeform\PDFForm@Push
13472         \pdfmark[\MakeButtonField{#2}]{%
13473             pdfmark=/ANN,%
13474             objdef=push\HyField@TheAnnotCount,%
13475             Raw={\PDFForm@Push}%
13476         }%
13477     }%
13478     \HyField@AddToFields{push}%
13479 \fi
13480 \endgroup
13481 }
13482 \def\@Submit[#1]#2{%
13483     \def\Fld@width{\DefaultWidthofSubmit}%
13484     \def\Fld@height{\DefaultHeightofSubmit}%
13485     \begingroup
13486     \expandafter\HyField@SetKeys\expandafter{%
13487         \DefaultOptionsofSubmit,#1%
13488     }%
13489     \HyField@FlagsPushButton
13490     \HyField@FlagsSubmit
13491     \ifFld@hidden\def\Fld@width{1sp}\fi
13492     \Hy@escapeform\PDFForm@Submit
13493     \HyField@AdvanceAnnotCount
13494     \pdfmark[\MakeButtonField{#2}]{%
13495         pdfmark=/ANN,%
13496         objdef=submit\HyField@TheAnnotCount,%
13497         Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
13498     }%
13499     \HyField@AddToFields{submit}%
13500 \endgroup
13501 }
13502 \def\@Reset[#1]#2{%
13503     \def\Fld@width{\DefaultWidthofReset}%
13504     \def\Fld@height{\DefaultHeightofReset}%
13505     \begingroup
13506     \expandafter\HyField@SetKeys\expandafter{%
13507         \DefaultOptionsofReset,#1%
13508     }%
13509     \leavevmode

```

```

13510 \ifHy@pdfa
13511 \Hy@Error{%
13512     PDF/A: Reset action is prohibited%
13513 } \@ehc
13514 \MakeButtonField{#2}%
13515 \else
13516 \HyField@FlagsPushButton
13517 \ifFld@hidden\def\Fld@width{1sp}\fi
13518 \Hy@escapeform\PDFForm@Reset
13519 \HyField@AdvanceAnnotCount
13520 \pdfmark[\MakeButtonField{#2}]{%
13521     pdfmark=/ANN,%
13522     objdef=reset\HyField@TheAnnotCount,%
13523     Raw={\PDFForm@Reset}%
13524 }%
13525 \HyField@AddToFields{reset}%
13526 \fi
13527 \endgroup
13528 }%
13529 \def\@CheckBox[#1]#2{% parameters, label
13530 \def\Fld@name{#2}%
13531 \def\Fld@default{0}%
13532 \begingroup
13533 \def\Fld@width{\DefaultWidthofCheckBox}%
13534 \def\Fld@height{\DefaultHeightofCheckBox}%
13535 \expandafter\HyField@SetKeys\expandafter{%
13536     \DefaultOptionsofCheckBox,#1%
13537 }%
13538 \HyField@FlagsCheckBox
13539 \ifFld@hidden\def\Fld@width{1sp}\fi
13540 \HyField@AdvanceAnnotCount
13541 \LayoutCheckField{#2}{%
13542     \leavevmode
13543     \Hy@escapeform\PDFForm@Check
13544     \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13545         pdfmark=/ANN,%
13546         objdef=check\HyField@TheAnnotCount,%
13547         Raw={\PDFForm@Check}%
13548     }%
13549 }%
13550 \HyField@AddToFields{check}%
13551 \endgroup
13552 }
13553 \pdfmark

```

48.2 HyperTeX

```

13554 \hypertex
13555 \def\@Form[#1]{%
13556 \Hy@Message{Sorry, HyperTeX does not support FORMs}%

```

```

13557 }
13558 \let\@endForm\ltx@empty
13559 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13560 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13561 }
13562 \def\@TextField[#1]#2{% parameters, label
13563 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13564 }
13565 \def\@CheckBox[#1]#2{% parameters, label
13566 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13567 }
13568 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13569 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13570 }
13571 \def\@PushButton[#1]#2{% parameters, label
13572 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13573 }
13574 \def\@Reset[#1]#2{%
13575 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13576 }
13577 \def\@Submit[#1]#2{%
13578 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13579 }
13580 </hypertex>

```

48.3 TeX4ht

```

13581 <*tex4ht>
13582 \def\@Form[#1]{%
13583 \kvsetkeys{Form}{#1}%
13584 \HCode{<form action="\Form@action" method="\Form@method">}%
13585 }
13586 \def\@endForm{\HCode{</form>}}
13587 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13588 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13589 }
13590 \def\@TextField[#1]#2{% parameters, label
13591 \let\Hy@reserved@a\@empty
13592 \def\Fld@name{#2}%
13593 \let\Fld@default\ltx@empty
13594 \bgroup
13595 \Field@toks={ }%
13596 \kvsetkeys{Field}{#1}%
13597 \HCode{<label for="\Fld@name">#2</label>}%
13598 \ifFld@password
13599 \@@PasswordField
13600 \else
13601 \@@TextField
13602 \fi
13603 \egroup

```



```

13604 }
13605 \def\@@PasswordField{%
13606   \HCode{%
13607     <input type="password" %
13608     id="\Fld@name" %
13609     name="\Fld@name" %
13610     \ifFld@hidden type="hidden" \fi
13611     value="\Fld@default" %
13612     \the\Field@toks
13613     >%
13614   }%
13615 }
13616 \def\@@TextField{%
13617   \ifFld@multiline
13618     \HCode{<textarea %
13619       \ifFld@readonly readonly \fi
13620       id="\Fld@name" %
13621       name="\Fld@name" %
13622       \ifFld@hidden type="hidden" \fi
13623       \the\Field@toks>%
13624     }%
13625     \Fld@default
13626     \HCode{</textarea>}%
13627   \else
13628     \HCode{<input type="text" %
13629       \ifFld@readonly readonly \fi
13630       id="\Fld@name" %
13631       name="\Fld@name" %
13632       \ifFld@hidden type="hidden" \fi
13633       value="\Fld@default" %
13634       \the\Field@toks>%
13635     }%
13636   \fi
13637 }
13638 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13639   \def\Fld@name{#2}%
13640   \let\Fld@default\ltx@empty
13641   \let\Hy@reserved@a\relax
13642   \begingroup
13643     \expandafter\Fld@findlength#3\\%
13644     \Field@toks={ }%
13645     \kvsetkeys{Field}{#1}%
13646     #2%
13647     \ifFld@radio
13648       \expandafter\@@Radio#3\\%
13649     \else
13650       \expandafter\@@Menu#3\\%
13651     \fi
13652   \endgroup
13653 }

```

```

13654 \def\Fld@findlength#1\\{%
13655   \Fld@menulength=0 %
13656   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13657 }
13658 \def\@@Menu#1\\{%
13659   \HCode{<select size="\the\Fld@menulength" %
13660     name="\Fld@name" %
13661     \the\Field@toks>%
13662   }%
13663   \@for\@curropt:=#1\do{%
13664     \expandafter\Fld@checkequals\@curropt==\\%
13665     \HCode{<option %
13666       \ifx\@curropt\Fld@default selected \fi
13667       value="\@currValue">\@currDisplay</option>%
13668     }%
13669   }%
13670   \HCode{</select>}%
13671 }
13672 \def\@@Radio#1\\{%
13673   \@for\@curropt:=#1\do{%
13674     \expandafter\Fld@checkequals\@curropt==\\%
13675     \HCode{<input type="radio" %
13676       \ifx\@curropt\Fld@default checked \fi
13677       name="\Fld@name" %
13678       value="\@currValue" %
13679       \the\Field@toks>%
13680     }%
13681     \@currDisplay
13682   }%
13683 }
13684 \def\@PushButton[#1]#2{% parameters, label
13685   \def\Fld@name{#2}%
13686   \bgroup
13687   \Field@toks={ }%
13688   \kvsetkeys{Field}{#1}%
13689   \HCode{<input type="button" %
13690     name="\Fld@name" %
13691     value="#2" %
13692     \the\Field@toks>%
13693   }%
13694   \HCode{</button>}%
13695   \egroup
13696 }
13697 \def\@Submit[#1]#2{%
13698   \HCode{<button type="submit">#2</button>}%
13699 }
13700 \def\@Reset[#1]#2{%
13701   \HCode{<button type="reset">#2</button>}%
13702 }
13703 \def\@CheckBox[#1]#2{% parameters, label

```

```

13704 \let\Hy@reserved@a\@empty
13705 \def\Fld@name{#2}%
13706 \def\Fld@default{0}%
13707 \bgroup
13708 \Field@toks={ }%
13709 \kvsetkeys{Field}{#1}%
13710 \HCode{<input type="checkbox" %
13711 \ifFld@checked checked \fi
13712 \ifFld@disabled disabled \fi
13713 \ifFld@readonly readonly \fi
13714 name="\Fld@name" %
13715 \ifFld@hidden type="hidden" \fi
13716 value="\Fld@default" %
13717 \the\Field@toks>%
13718 #2%
13719 }%
13720 \egroup
13721 }
13722 </tex4ht>

```

48.4 pdfTeX

```

13723 <*pdfTeX>
13724 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13725 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13726 }
13727 \def\MakeFieldObject#1#2{\sbox0{#1}%
13728 \immediate\pdfxform0 %
13729 \expandafter\edef\csname #2Object\endcsname{%
13730 \the\pdfastxform\space 0 R%
13731 }%
13732 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13733 }%
13734 \let\HyField@afields\ltx@empty
13735 \let\HyField@cofields\ltx@empty
13736 \begingroup\expandafter\expandafter\expandafter\endgroup
13737 \expandafter\ifx\csname pdfastlink\endcsname\relax
13738 \let\HyField@AddToFields\relax
13739 \PackageInfo{hyperref}{%
13740 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13741 \MessageBreak
13742 Adobe Reader/Acrobat accepts an empty /Field array,%
13743 \MessageBreak
13744 but other PDF viewers might complain%
13745 }%
13746 \else
13747 \let\HyField@AuxAddToFields\ltx@gobble
13748 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13749 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%

```

Insertion sort for calculation field list. In case of equal sort keys (for example, if

‘calculatesortkey’ is not used at all) the keys keep document calling order.

```

13750 \def\HyField@ABD@AuxAddToCoFields#1#2{%
13751   \begingroup
13752   \Hy@safe@activestrue
13753   \let\ltx@secondoftwo\relax
13754   \ifx\HyField@cofields\ltx@empty
13755     \xdef\HyField@cofields{%
13756       \ltx@secondoftwo{#1}{ #2 0 R}%
13757     }%
13758   \else
13759     \let\ltx@secondoftwo\relax
13760     \def\HyField@AddCoField##1##2##3{%
13761       \ifx##1\ltx@empty
13762         \ltx@secondoftwo{#1}{ #2 0 R}%
13763         \expandafter\ltx@gobble
13764       \else
13765         \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13766           \ltx@secondoftwo{#1}{ #2 0 R}%
13767           \ltx@secondoftwo{##2}{##3}%
13768           \expandafter\expandafter\expandafter\ltx@gobble
13769         \else
13770           \ltx@secondoftwo{##2}{##3}%
13771         \fi
13772       \fi
13773       \HyField@AddCoField
13774     }%
13775     \xdef\HyField@cofields{%
13776       \expandafter\HyField@AddCoField
13777       \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13778     }%
13779   \fi
13780 \endgroup
13781 }%
13782 \Hy@AtBeginDocument{%
13783   \if@files
13784     \immediate\write\@mainaux{%
13785       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13786     }%
13787     \immediate\write\@mainaux{%
13788       \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13789     }%
13790   \fi
13791   \let\HyField@AfterAuxOpen\@firstofone
13792   \def\HyField@AuxAddToFields#1{%
13793     \xdef\HyField@afields{%
13794       \ifx\HyField@afields\@empty
13795       \else
13796         \HyField@afields
13797         \space
13798       \fi

```

```

13799      #1 0 R%
13800    }%
13801  }%
13802  \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13803 }%
13804 \def\HyField@AddToFields{%
13805   \expandafter\HyField@@AddToFields\expandafter{%
13806     \the\pdfastlink
13807   }%
13808   \ifx\Fld@calculate@code\ltx@empty
13809   \else
13810     \begingroup
13811     \Hy@safe@activetrue
13812     \edef\Hy@temp{%
13813       \endgroup
13814       \if@filesw
13815         \write\@mainaux{%
13816           \string\HyField@AuxAddToCoFields{%
13817             \Fld@calculate@sortkey
13818           }{%
13819             \the\pdfastlink
13820           }%
13821         }%
13822       \fi
13823     }%
13824     \Hy@temp
13825   \fi
13826 }%
13827 \def\HyField@@AddToFields#1{%
13828   \HyField@AfterAuxOpen{%
13829     \if@filesw
13830       \write\@mainaux{%
13831         \string\HyField@AuxAddToFields{#1}%
13832       }%
13833     \fi
13834   }%
13835 }%
13836 \fi
13837 \def\@Form[#1]{%
13838   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13839   \kvsetkeys{Form}{#1}%
13840   \pdf@ifdraftmode{}{%
13841     \Hy@FormObjects
13842     \ifnum\pdfTeXversion>13 %
13843       \pdfrefobj\OBJ@pdfdocencoding
13844       \pdfrefobj\OBJ@ZaDb
13845       \pdfrefobj\OBJ@Helv
13846     \fi
13847     \AtVeryEndDocument{%
13848       \immediate\pdfobj{%

```

```

13849    <<%
13850    /Fields[\HyField@afields]%
13851    \ifx\HyField@cofields\ltx@empty
13852    \else
13853    /CO[\romannumeral-'\Q\HyField@cofields]%
13854    \fi
13855    /DR<<%
13856    /Font<<%
13857    /ZaDb \OBJ@ZaDb\space 0 R%
13858    /Helv \OBJ@Helv\space 0 R%
13859    >>%
13860    >>%
13861    /DA(/Helv 10 Tf 0 g)%
13862    \ifHy@pdfa
13863    \else
13864    \ifHyField@NeedAppearances
13865    /NeedAppearances true%
13866    \fi
13867    \fi
13868    >>%
13869    }%
13870    \edef\OBJ@acroform{\the\pdflastobj}%
13871    \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13872    }%
13873    }%
13874    \MakeFieldObject{%
Same as \ding{123} of package pifont.
13875    \begingroup
13876    \fontfamily{pzd}%
13877    \fontencoding{U}%
13878    \fontseries{m}%
13879    \fontshape{n}%
13880    \selectfont
13881    \char123 %
13882    \endgroup
13883    }{Ding}%
13884    \MakeFieldObject{%
13885    \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13886    }{Submit}%
13887    \MakeFieldObject{%
13888    \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13889    }{SubmitP}%
13890    }
13891    \let\@endForm\ltx@empty
13892    \let\HyAnn@AbsPageLabel\ltx@empty
13893    \let\Fld@pageobjref\ltx@empty
13894    \ltx@ifundefined{pdfpageref}{%
13895    }{%
13896    \ltx@ifpackageloaded{zref-abspage}{%

```

```

13897 \newcount\HyAnn@Count
13898 \HyAnn@Count=\ltx@zero
13899 \def\HyAnn@AbsPageLabel{%
13900   \global\advance\HyAnn@Count by\ltx@one
13901   \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13902   \zref@refused{HyAnn@\the\HyAnn@Count}%
13903 }%
13904 \def\Fld@pageobjref{%
13905   \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13906   }{%
13907     \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13908       /P \pdfpageref
13909       \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13910       \space 0 R%
13911     }{%
13912     }%
13913   }%
13914 }%
13915 }{%
13916 }%
13917 }

13918 \def\@TextField[#1]#2{% parameters, label
13919 \def\Fld@name{#2}%
13920 \let\Fld@default\ltx@empty
13921 \let\Fld@value\@empty
13922 \def\Fld@width{\DefaultWidthofText}%
13923 \def\Fld@height{%
13924   \ifFld@multiline
13925     \DefaultHeightofTextMultiline
13926   \else
13927     \DefaultHeightofText
13928   \fi
13929 }%
13930 \begingroup
13931 \expandafter\HyField@SetKeys\expandafter{%
13932   \DefaultOptionsofText,#1%
13933 }%
13934 \PDFForm@Name
13935 \HyField@FlagsText
13936 \ifFld@hidden\def\Fld@width{1sp}\fi
13937 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13938 \LayoutTextField{#2}{%
13939   \leavevmode
13940   \HyAnn@AbsPageLabel
13941   \Hy@escapeform\PDFForm@Text
13942   \pdfstartlink user {\PDFForm@Text}\relax
13943   \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13944   \HyField@AddToFields
13945 }%

```

```

13946 \endgroup
13947 }
13948 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13949 \def\Fld@name{#2}%
13950 \let\Fld@default\relax
13951 \let\Fld@value\relax
13952 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13953 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13954 \begingroup
13955 \Fld@menulength=0 %
13956 \@tempdima\z@
13957 \@for\@curropt:=#3\do{%
13958 \expandafter\Fld@checkequals\@curropt==\\%
13959 \Hy@StepCount\Fld@menulength
13960 \settowidth{\@tempdimb}{\@currDisplay}%
13961 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13962 }%
13963 \advance\@tempdima by 15\p@
13964 \begingroup
13965 \HyField@SetKeys{#1}%
13966 \edef\x{\endgroup
13967 \noexpand\expandafter
13968 \noexpand\HyField@SetKeys
13969 \noexpand\expandafter{%
13970 \expandafter\noexpand\csname DefaultOptionsof%
13971 \ifFld@radio
13972 Radio%
13973 \else
13974 \ifFld@combo
13975 \ifFld@popdown
13976 PopdownBox%
13977 \else
13978 ComboBox%
13979 \fi
13980 \else
13981 ListBox%
13982 \fi
13983 \fi
13984 \endcsname
13985 }%
13986 }\x
13987 \HyField@SetKeys{#1}%
13988 \PDFForm@Name
13989 \ifFld@hidden\def\Fld@width{1sp}\fi
13990 \ifx\Fld@value\relax
13991 \let\Fld@value\Fld@default
13992 \fi
13993 \LayoutChoiceField{#2}{%
13994 \ifFld@radio
13995 \HyField@FlagsRadioButton

```



```

13996      \@@Radio{#3}%
13997      \else
13998      \begingroup
13999      \HyField@FlagsChoice
14000      \ifdim\Fld@width<\@tempdima
14001      \ifdim\@tempdima<1cm\@tempdima1cm\fi
14002      \edef\Fld@width{\the\@tempdima}%
14003      \fi
14004      \ifFld@combo
14005      \else
14006      \@tempdima=\the\Fld@menulength\Fld@charsize
14007      \advance\@tempdima by \Fld@borderwidth bp %
14008      \advance\@tempdima by \Fld@borderwidth bp %
14009      \edef\Fld@height{\the\@tempdima}%
14010      \fi
14011      \@@ListBox{#3}%
14012      \endgroup
14013      \fi
14014      }%
14015      \endgroup
14016      }
14017      \def\@@Radio#1{%
14018      \Fld@listcount=0 %
14019      \EdefEscapeName\Fld@default{\Fld@default}%
14020      \@for\@curropt:=#1\do{%
14021      \expandafter\Fld@checkequals\@curropt==\\%
14022      \EdefEscapeName\@currValue{\@currValue}%
14023      \Hy@StepCount\Fld@listcount
14024      \@currDisplay\space
14025      \leavevmode
14026      \HyAnn@AbsPageLabel
14027      \Hy@escapeform\PDFForm@Radio
14028      \pdfstartlink user {%
14029      \PDFForm@Radio
14030      /AP<<%
14031      /N<<%

```

Laurent.Guillope@math.univ-nantes.fr (Laurent Guillope) persuades me that this was wrong: `/\Fld@name\the\Fld@listcount`. But I leave it here to remind me that it is untested.

```

14032      /\@currValue\space \DingObject
14033      >>%
14034      >>%
14035      }%
14036      \relax
14037      \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
14038      \ifnum\Fld@listcount=1 %
14039      \HyField@AddToFields
14040      \fi
14041      \space % deliberate space between radio buttons

```

```

14042 }%
14043 }
14044 \newcount\Fld@listcount
14045 \def\@@ListBox#1{%
14046   \HyField@PDFChoices{#1}%
14047   \leavevmode
14048   \HyAnn@AbsPageLabel
14049   \Hy@escapeform\PDFForm@List
14050   \pdfstartlink user {\PDFForm@List}\relax
14051   \MakeChoiceField{\Fld@width}{\Fld@height}%
14052   \pdfendlink
14053   \HyField@AddToFields
14054 }
14055 \def\@PushButton[#1]#2{% parameters, label
14056   \def\Fld@name{#2}%
14057   \begingroup
14058     \expandafter\HyField@SetKeys\expandafter{%
14059       \DefaultOptionsofPushButton,#1%
14060     }%
14061     \PDFForm@Name
14062     \ifHy@pdfa
14063       \Hy@Error{%
14064         PDF/A: Push button with JavaScript is prohibited%
14065       }\@ehc
14066       \LayoutPushButtonField{%
14067         \leavevmode
14068         \MakeButtonField{#2}%
14069       }%
14070     \else
14071       \HyField@FlagsPushButton
14072       \ifFld@hidden\def\Fld@width{1sp}\fi
14073       \LayoutPushButtonField{%
14074         \leavevmode
14075         \HyAnn@AbsPageLabel
14076         \Hy@escapeform\PDFForm@Push
14077         \pdfstartlink user {\PDFForm@Push}\relax
14078         \MakeButtonField{#2}%
14079         \pdfendlink
14080         \HyField@AddToFields
14081       }%
14082     \fi
14083   \endgroup
14084 }
14085 \def\@Submit[#1]#2{%
14086   \def\Fld@width{\DefaultWidthofSubmit}%
14087   \def\Fld@height{\DefaultHeightofSubmit}%
14088   \begingroup
14089     \expandafter\HyField@SetKeys\expandafter{%
14090       \DefaultOptionsofSubmit,#1%
14091     }%

```

```

14092 \HyField@FlagsPushButton
14093 \HyField@FlagsSubmit
14094 \ifFld@hidden\def\Fld@width{1sp}\fi
14095 \leavevmode
14096 \HyAnn@AbsPageLabel
14097 \Hy@escapeform\PDFForm@Submit
14098 \pdfstartlink user {%
14099   \PDFForm@Submit
14100   /AP<</N \SubmitObject/D \SubmitPObject>>%
14101 }%
14102 \relax
14103 \MakeButtonField{#2}%
14104 \pdfendlink
14105 \HyField@AddToFields
14106 \endgroup
14107 }
14108 \def\@Reset[#1]#2{%
14109   \def\Fld@width{\DefaultWidthofReset}%
14110   \def\Fld@height{\DefaultHeightofReset}%
14111   \begingroup
14112     \expandafter\HyField@SetKeys\expandafter{%
14113       \DefaultOptionsofReset,#1%
14114     }%
14115     \leavevmode
14116     \ifHy@pdfa
14117       \Hy@Error{%
14118         PDF/A: Reset action is prohibited%
14119       }\@ehc
14120       \MakeButtonField{#2}%
14121     \else
14122       \HyField@FlagsPushButton
14123       \ifFld@hidden\def\Fld@width{1sp}\fi
14124       \HyAnn@AbsPageLabel
14125       \Hy@escapeform\PDFForm@Reset
14126       \pdfstartlink user {\PDFForm@Reset}\relax
14127       \MakeButtonField{#2}%
14128       \pdfendlink
14129       \HyField@AddToFields
14130     \fi
14131   \endgroup
14132 }
14133 \def\@CheckBox[#1]#2{% parameters, label
14134   \def\Fld@name{#2}%
14135   \def\Fld@default{0}%
14136   \begingroup
14137     \def\Fld@width{\DefaultWidthofCheckBox}%
14138     \def\Fld@height{\DefaultHeightofCheckBox}%
14139     \expandafter\HyField@SetKeys\expandafter{%
14140       \DefaultOptionsofCheckBox,#1%
14141     }%

```

```

14142 \PDFForm@Name
14143 \HyField@FlagsCheckBox
14144 \ifFld@hidden\def\Fld@width{1sp}\fi
14145 \LayoutCheckField{#2}{%
14146 \leavevmode
14147 \HyAnn@AbsPageLabel
14148 \Hy@escapeform\PDFForm@Check
14149 \pdfstartlink user {\PDFForm@Check}\relax
14150 \MakeCheckField{\Fld@width}{\Fld@height}%
14151 \pdfendlink
14152 \HyField@AddToFields
14153 }%
14154 \endgroup
14155 }
14156 \def\Hy@FormObjects{%
14157 \pdfobj {%
14158 <<%
14159 /Type/Encoding%
14160 /Differences%
14161 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
14162 /ring/tilde %
14163 39/quotesingle %
14164 96/grave %
14165 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14166 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14167 /quotedblbase/quotedblleft/quotedblright/quoteleft%
14168 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
14169 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14170 164/currency %
14171 166/brokenbar %
14172 168/dieresis/copyright/ordfeminine %
14173 172/logicalnot/.notdef/registered/macron/degree/plusminus%
14174 /twosuperior/threesuperior/acute/mu %
14175 183/periodcentered/cedilla/onesuperior/ordmasculine %
14176 188/onequarter/onehalf/threequarters %
14177 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14178 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
14179 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
14180 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
14181 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
14182 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
14183 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
14184 /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
14185 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
14186 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
14187 ]%
14188 >>%
14189 }%
14190 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
14191 \pdfobj{%

```

```

14192 <<%
14193   /Type/Font%
14194   /Subtype/Type1%
14195   /Name/ZaDb%
14196   /BaseFont/ZapfDingbats%
14197 >>%
14198 }%
14199 \xdef\OBJ@ZaDb{\the\pdfastobj}%
14200 \pdfobj{%
14201 <<%
14202   /Type/Font%
14203   /Subtype/Type1%
14204   /Name/Helv%
14205   /BaseFont/Helvetica%
14206   /Encoding \OBJ@pdfdocencoding\space 0 R%
14207 >>%
14208 }%
14209 \xdef\OBJ@Helv{\the\pdfastobj}%
14210 \global\let\Hy@FormObjects\relax
14211 }
14212 \</pdfTeX>

```

48.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

14213 \<*dvipdfm | xetex>

```

\@Gauge

```

14214 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
14215   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
14216 }

```

\@Form

```

14217 \def\@Form[#1]{%
14218   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
14219   \kvsetkeys{Form}{#1}%
14220   \Hy@FormObjects
14221   \@pdfm@mark{obj @afields []}%
14222   \@pdfm@mark{obj @corder []}%
14223   \@pdfm@mark{%
14224     obj @aform <<%
14225       /Fields @afields%
14226       /DR<<%
14227       /Font<<%
14228       /ZaDb @OBJZaDb%
14229       /Helv @OBJHelv%
14230       >>%
14231       >>%
14232       /DA(/Helv 10 Tf 0 g)%

```

```

14233 /CO @corder%
14234 \ifHy@pdfa
14235 \else
14236 \ifHyField@NeedAppearances
14237 /NeedAppearances true%
14238 \fi
14239 \fi
14240 >>%
14241 }%
14242 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
14243 }

```

\@endForm

```

14244 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

14245 \def\dvipdfm@setdim{%
14246 height \the\ht\pdfm@box\space
14247 width \the\wd\pdfm@box\space
14248 depth \the\dp\pdfm@box\space
14249 }

```

\HyField@AnnotCount

```

14250 \newcount\HyField@AnnotCount
14251 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

14252 \def\HyField@AdvanceAnnotCount{%
14253 \global\advance\HyField@AnnotCount\@ne
14254 }

```

\HyField@TheAnnotCount

```

14255 \def\HyField@TheAnnotCount{%
14256 \the\HyField@AnnotCount
14257 }

```

\Fld@pageobjref

```

14258 \def\Fld@pageobjref{/P @thispage}%

```

\HyField@AddToFields

```

14259 \def\HyField@AddToFields#1{%
14260 \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
14261 \ifx\Fld@calculate@code\ltx@empty
14262 \else
14263 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
14264 \fi
14265 }

```

\@TextField

```
14266 \def\@TextField[#1]#2{% parameters, label
14267 \def\Fld@name{#2}%
14268 \let\Fld@default\ltx@empty
14269 \let\Fld@value\@empty
14270 \def\Fld@width{\DefaultWidthofText}%
14271 \def\Fld@height{%
14272 \ifFld@multiline
14273 \DefaultHeightofTextMultiline
14274 \else
14275 \DefaultHeightofText
14276 \fi
14277 }%
14278 \begingroup
14279 \expandafter\HyField@SetKeys\expandafter{%
14280 \DefaultOptionsofText,#1%
14281 }%
14282 \PDFForm@Name
14283 \HyField@FlagsText
14284 \ifFld@hidden\def\Fld@width{1sp}\fi
14285 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
14286 \setbox\pdfm@box=\hbox{%
14287 \MakeTextField{\Fld@width}{\Fld@height}%
14288 }%
14289 \HyField@AdvanceAnnotCount
14290 \LayoutTextField{#2}{%
14291 \leavevmode
14292 \Hy@escapeform\PDFForm@Text
14293 \@pdfm@mark{%
14294 ann @text\HyField@TheAnnotCount\space
14295 \dvipdfm@setdim << \PDFForm@Text >>%
14296 }%
14297 }%
14298 \unhbox\pdfm@box
14299 \HyField@AddToFields{text}%
14300 % record in @afields array
14301 \endgroup
14302 }
```

\@ChoiceMenu

```
14303 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14304 \def\Fld@name{#2}%
14305 \let\Fld@default\relax
14306 \let\Fld@value\relax
14307 \def\Fld@width{\DefaultWidthofChoiceMenu}%
14308 \def\Fld@height{\DefaultHeightofChoiceMenu}%
14309 \begingroup
14310 \Fld@menulength=0 %
14311 \@tempdima\z@
14312 \@for\@curropt:=#3\do{%
```

```

14313 \expandafter\Fld@checkequals\@curropt==\\%
14314 \Hy@StepCount\Fld@menulength
14315 \settowidth{\@tempdimb}{\@currDisplay}%
14316 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14317 }%
14318 \advance\@tempdima by 15\p@
14319 \begingroup
14320 \HyField@SetKeys{#1}%
14321 \edef\x{\endgroup
14322 \noexpand\expandafter
14323 \noexpand\HyField@SetKeys
14324 \noexpand\expandafter{%
14325 \expandafter\noexpand\csname DefaultOptionsof%
14326 \ifFld@radio
14327 Radio%
14328 \else
14329 \ifFld@combo
14330 \ifFld@popdown
14331 PopdownBox%
14332 \else
14333 ComboBox%
14334 \fi
14335 \else
14336 ListBox%
14337 \fi
14338 \fi
14339 \endcsname
14340 }%
14341 }\x
14342 \HyField@SetKeys{#1}%
14343 \PDFForm@Name
14344 \ifFld@hidden\def\Fld@width{1sp}\fi
14345 \ifx\Fld@value\relax
14346 \let\Fld@value\Fld@default
14347 \fi
14348 \LayoutChoiceField{#2}{%
14349 \ifFld@radio
14350 \HyField@FlagsRadioButton
14351 \@@Radio{#3}%
14352 \else
14353 \begingroup
14354 \HyField@FlagsChoice
14355 \ifdim\Fld@width<\@tempdima
14356 \ifdim\@tempdima<1cm\@tempdima1cm\fi
14357 \edef\Fld@width{\the\@tempdima}%
14358 \fi
14359 \ifFld@combo
14360 \else
14361 \@tempdima=\the\Fld@menulength\Fld@charsize
14362 \advance\@tempdima by \Fld@borderwidth bp %

```



```

14363         \advance\@tempdima by \Fld@borderwidth bp %
14364         \edef\Fld@height{\the\@tempdima}%
14365         \fi
14366         \@@Listbox{#3}%
14367     \endgroup
14368 \fi
14369 }%
14370 \endgroup
14371 }

\@@Radio
14372 \def\@@Radio#1{%
14373     \Fld@listcount=0 %
14374     \EdefEscapeName\Fld@default{\Fld@default}%
14375     \setbox\pdfm@box=\hbox{%
14376         \MakeRadioField{\Fld@width}{\Fld@height}%
14377     }%
14378     \for\@curropt:=#1\do{%
14379         \expandafter\Fld@checkequals\@curropt==\%
14380         \EdefEscapeName\@currValue{\@currValue}%
14381         \Hy@StepCount\Fld@listcount
14382         \@currDisplay\space
14383         \leavevmode
14384         \Hy@escapeform\PDFForm@Radio
14385         \ifnum\Fld@listcount=1 %
14386             \HyField@AdvanceAnnotCount
14387         \fi
14388         \@pdfm@mark{%
14389             ann %
14390             \ifnum\Fld@listcount=1 %
14391                 @radio\HyField@TheAnnotCount%
14392             \space
14393             \fi
14394             \dvipdfm@setdim
14395             <<%
14396             \PDFForm@Radio
14397             /AP<</N<</\@currValue /null>>>%
14398             >>%
14399         }%
14400         \unhcopy\pdfm@box\space% deliberate space between radio buttons
14401         \ifnum\Fld@listcount=1 %
14402             \HyField@AddToFields{radio}%
14403         \fi
14404     }%
14405 }

\Fld@listcount
14406 \newcount\Fld@listcount

\@@Listbox

```

```

14407 \def\@@Listbox#1{%
14408   \HyField@PDFChoices{#1}%
14409   \setbox\pdfm@box=\hbox{%
14410     \MakeChoiceField{\Fld@width}{\Fld@height}%
14411   }%
14412   \leavevmode
14413   \Hy@escapeform\PDFForm@List
14414   \HyField@AdvanceAnnotCount
14415   \@pdfm@mark{%
14416     ann @list\HyField@TheAnnotCount\space
14417     \dvipdfm@setdim
14418     <<\PDFForm@List>>%
14419   }%
14420   \unhbox\pdfm@box
14421   \HyField@AddToFields{list}%
14422 }

```

\@PushButton

```

14423 \def\@PushButton[#1]#2{% parameters, label
14424   \def\Fld@name{#2}%
14425   \begingroup
14426     \expandafter\HyField@SetKeys\expandafter{%
14427       \DefaultOptionsofPushButton,#1%
14428     }%
14429     \PDFForm@Name
14430     \ifHy@pdfa
14431       \Hy@Error{%
14432         PDF/A: Push button with JavaScript is prohibited%
14433       }\@ehc
14434       \LayoutPushButtonField{%
14435         \leavevmode
14436         \MakeButtonField{#2}%
14437       }%
14438     \else
14439       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14440       \HyField@FlagsPushButton
14441       \ifFld@hidden\def\Fld@width{1sp}\fi
14442       \HyField@AdvanceAnnotCount
14443       \LayoutPushButtonField{%
14444         \leavevmode
14445         \Hy@escapeform\PDFForm@Push
14446         \@pdfm@mark{%
14447           ann @push\HyField@TheAnnotCount\space
14448           \dvipdfm@setdim
14449           <<\PDFForm@Push>>%
14450         }%
14451       }%
14452       \unhbox\pdfm@box
14453       \HyField@AddToFields{push}%
14454     \fi

```

```

14455 \endgroup
14456 }

\@Submit
14457 \def\@Submit[#1]#2{%
14458 \def\Fld@width{\DefaultWidthofSubmit}%
14459 \def\Fld@height{\DefaultHeightofSubmit}%
14460 \begingroup
14461 \expandafter\HyField@SetKeys\expandafter{%
14462 \DefaultOptionsofSubmit,#1%
14463 }%
14464 \HyField@FlagsPushButton
14465 \HyField@FlagsSubmit
14466 \ifFld@hidden\def\Fld@width{1sp}\fi
14467 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14468 \leavevmode
14469 \Hy@escapeform\PDFForm@Submit
14470 \HyField@AdvanceAnnotCount
14471 \@pdfm@mark{%
14472 ann @submit\HyField@TheAnnotCount\space
14473 \dvipdfm@setdim
14474 <<\PDFForm@Submit>>%
14475 }%
14476 \unhbox\pdfm@box%
14477 \HyField@AddToFields{submit}%
14478 \endgroup
14479 }

\@Reset
14480 \def\@Reset[#1]#2{%
14481 \def\Fld@width{\DefaultWidthofReset}%
14482 \def\Fld@height{\DefaultHeightofReset}%
14483 \begingroup
14484 \expandafter\HyField@SetKeys\expandafter{%
14485 \DefaultOptionsofReset,#1%
14486 }%
14487 \leavevmode
14488 \ifHy@pdfa
14489 \Hy@Error{%
14490 PDF/A: Reset action is prohibited%
14491 }\@ehc
14492 \MakeButtonField{#2}%
14493 \else
14494 \HyField@FlagsPushButton
14495 \ifFld@hidden\def\Fld@width{1sp}\fi
14496 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14497 \Hy@escapeform\PDFForm@Reset
14498 \HyField@AdvanceAnnotCount
14499 \@pdfm@mark{%
14500 ann @reset\HyField@TheAnnotCount\space

```

```

14501      \dvipdfm@setdim
14502      <<\PDFForm@Reset>>%
14503      }%
14504      \unhbox\pdfm@box
14505      \HyField@AddToFields{reset}%
14506      \fi
14507 \endgroup
14508 }

```

\@CheckBox

```

14509 \def\@CheckBox[#1]#2{% parameters, label
14510 \def\Fld@name{#2}%
14511 \def\Fld@default{0}%
14512 \begingroup
14513 \def\Fld@width{\DefaultWidthofCheckBox}%
14514 \def\Fld@height{\DefaultHeightofCheckBox}%
14515 \expandafter\HyField@SetKeys\expandafter{%
14516   \DefaultOptionsofCheckBox,#1%
14517 }%
14518 \PDFForm@Name
14519 \HyField@FlagsCheckBox
14520 \ifFld@hidden\def\Fld@width{1sp}\fi
14521 \setbox\pdfm@box=\hbox{%
14522   \MakeCheckField{\Fld@width}{\Fld@height}%
14523 }%
14524 \HyField@AdvanceAnnotCount
14525 \LayoutCheckField{#2}{%
14526   \leavevmode
14527   \Hy@escapeform\PDFForm@Check
14528   \@pdfm@mark{%
14529     ann @check\HyField@TheAnnotCount\space
14530     \dvipdfm@setdim
14531     <<\PDFForm@Check>>%
14532   }%
14533   \unhbox\pdfm@box
14534   \HyField@AddToFields{check}%
14535 }%
14536 \endgroup
14537 }

14538 \def\Hy@FormObjects{%
14539 \@pdfm@mark{obj @OBJpdfdocencoding%
14540 <<%
14541 /Type/Encoding%
14542 /Differences%
14543 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14544 39/quotesingle %
14545 96/grave %
14546 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14547 /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

14548 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
 14549 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
 14550 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
 14551 164/currency %
 14552 166/brokenbar %
 14553 168/dieresis/copyright/ordfeminine %
 14554 172/logicalnot/.notdef/registered/macron/degree/plusminus%
 14555 /twosuperior/threesuperior/acute/mu %
 14556 183/periodcentered/cedilla/onesuperior/ordmasculine %
 14557 188/onequarter/onehalf/threequarters %
 14558 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
 14559 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
 14560 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
 14561 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
 14562 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
 14563 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
 14564 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
 14565 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
 14566 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
 14567 /thorn/ydieresis%
 14568]%
 14569 >>%
 14570 }%
 14571 \@pdfm@mark{obj @OBJZaDb%
 14572 <<%
 14573 /Type/Font%
 14574 /Subtype/Type1%
 14575 /Name/ZaDb%
 14576 /BaseFont/ZapfDingbats%
 14577 >>%
 14578 }%
 14579 \@pdfm@mark{obj @OBJHelv%
 14580 <<%
 14581 /Type/Font%
 14582 /Subtype/Type1%
 14583 /Name/Helv%
 14584 /BaseFont/Helvetica%
 14585 /Encoding @OBJpdfdocencoding%
 14586 >>%
 14587 }%
 14588 \global\let\Hy@FormObjects\relax
 14589 }
 14590 </dvipdfm | xetex>

48.6 Common forms part

14591 <*pdfform>

\Fld@pageobjref

14592 \providecommand*{\Fld@pageobjref}{{}

\Hy@escapestring

```
14593 \begingroup\expandafter\expandafter\expandafter\endgroup
14594 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14595   \let\Hy@escapestring\@firstofone
14596   \def\Hy@escapeform#1{%
14597     \ifHy@pdfescapeform
14598       \def\Hy@escapestring##1{%
14599         \noexpand\Hy@escapestring{\noexpand##1}%
14600       }%
14601       \edef\Hy@temp{#1}%
14602       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14603     \def\Hy@escapestring##1{%
14604       \ifundefined{Hy@esc@\string##1}{%
14605         ##1%
14606         \ThisShouldNotHappen
14607       }{%
14608         \csname Hy@esc@\string##1\endcsname
14609       }%
14610     }%
14611   \else
14612     \let\Hy@escapestring\@firstofone
14613   \fi
14614 }%
14615 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14616   \ifx\\#3\\%
14617   \else
14618     \expandafter
14619     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14620     \ltx@ReturnAfterFi{%
14621       \Hy@@escapeform#3\@nil
14622     }%
14623   \fi
14624 }%
14625 \else
14626   \def\Hy@escapeform#1{%
14627     \ifHy@pdfescapeform
14628       \let\Hy@escapestring\pdfescapestring
14629     \else
14630       \let\Hy@escapestring\@firstofone
14631     \fi
14632   }%
14633   \Hy@escapeform{%
14634   \fi
```

\PDFForm@Name

```
14635 \def\PDFForm@Name{%
14636   \PDFForm@@Name\Fld@name
14637   \ifx\Fld@altname\relax
14638   \else
14639     \PDFForm@@Name\Fld@altname
```

```

14640 \fi
14641 \ifx\Fld@mappingname\relax
14642 \else
14643 \PDFForm@@Name\Fld@mappingname
14644 \fi
14645 }

```

\PDFForm@@Name

```

14646 \def\PDFForm@@Name#1{%
14647 \begingroup
14648 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14649 \ifHy@unicode
14650 \Hy@unicodedefalse
14651 \fi
14652 \fi
14653 \HyPsd@XeTeXBigCharstrue
14654 \pdfstringdef\Hy@gtemp#1%
14655 \endgroup
14656 \let#1\Hy@gtemp
14657 }

```

\Fld@additionalactions

```

14658 \def\Fld@@additionalactions{%
K input (keystroke) format
14659 \ifx\Fld@keystroke@code\@empty
14660 \else
14661 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14662 \fi
F display format
14663 \ifx\Fld@format@code\@empty
14664 \else
14665 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14666 \fi
V validation
14667 \ifx\Fld@validate@code\@empty
14668 \else
14669 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14670 \fi
C calculation
14671 \ifx\Fld@calculate@code\@empty
14672 \else
14673 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14674 \fi
Fo receiving the input focus
14675 \ifx\Fld@onfocus@code\@empty
14676 \else

```

```

14677 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14678 \fi
Bl loosing the input focus (blurred)
14679 \ifx\Fld@onblur@code\@empty
14680 \else
14681 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14682 \fi
D pressing the mouse button (down)
14683 \ifx\Fld@onmousedown@code\@empty
14684 \else
14685 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14686 \fi
U releasing the mouse button (up)
14687 \ifx\Fld@onmouseup@code\@empty
14688 \else
14689 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14690 \fi
E cursor enters the annotation's active area.
14691 \ifx\Fld@onenter@code\@empty
14692 \else
14693 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14694 \fi
X cursor exits the annotation's active area.
14695 \ifx\Fld@onexit@code\@empty
14696 \else
14697 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14698 \fi
14699 }
14700 \def\Fld@additionalactions{%
14701 \if\Fld@@additionalactions-%
14702 \else
14703 \ifHy@pdfa
14704 \else
14705 /AA<<\Fld@@additionalactions>>%
14706 \fi
14707 \fi
14708 }

\Fld@annotnames
14709 \def\Fld@annotnames{%
14710 /T(\Fld@name)%
14711 \ifx\Fld@altname\relax
14712 \else
14713 /TU(\Fld@altname)%
14714 \fi
14715 \ifx\Fld@mappingname\relax
14716 \else

```



```

14717 /TM(\Fld@mappingname)%
14718 \fi
14719 }

```

\PDFForm@Check

```

14720 \def\PDFForm@Check{%
14721 /Subtype/Widget%
14722 \Fld@annotflags
14723 \Fld@pageobjref
14724 \Fld@annotnames
14725 /FT/Btn%
14726 \Fld@flags
14727 /Q \Fld@align
14728 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14729 /MK<<%
14730 \ifnum\Fld@rotation=\z@
14731 \else
14732 /R \Fld@rotation
14733 \fi
14734 \ifx\Fld@bordercolor\relax
14735 \else
14736 /BC[\Fld@bordercolor]%
14737 \fi
14738 \ifx\Fld@bcolor\relax
14739 \else
14740 /BG[\Fld@bcolor]%
14741 \fi
14742 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14743 >>%
14744 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14745 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14746 /H/P%
14747 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14748 \Fld@additionalactions
14749 }

```

\PDFForm@Push

```

14750 \ifHy@pdfa
14751 \else
14752 \def\PDFForm@Push{%
14753 /Subtype/Widget%
14754 \Fld@annotflags
14755 \Fld@pageobjref
14756 \Fld@annotnames
14757 /FT/Btn%
14758 \Fld@flags
14759 /H/P%
14760 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14761 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14762 \ifx\Fld@bordercolor\relax\else 1\fi

```

```

14763         \space
14764     \else
14765         /MK<<%
14766         \ifnum\Fld@rotation=\z@
14767         \else
14768             /R \Fld@rotation
14769         \fi
14770         \ifx\Fld@bordercolor\relax
14771         \else
14772             /BC[\Fld@bordercolor]%
14773         \fi
14774         >>%
14775     \fi
14776     /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14777     \Fld@additionalactions
14778 }%
14779 \fi

```

\PDFForm@List

```

14780 \def\PDFForm@List{%
14781     /Subtype/Widget%
14782     \Fld@annotflags
14783     \Fld@pageobjref
14784     \Fld@annotnames
14785     /FT/Ch%
14786     \Fld@flags
14787     /Q \Fld@align
14788     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14789     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14790         \ifx\Fld@bordercolor\relax\else 1\fi
14791         \ifx\Fld@bcolor\relax \else 1\fi
14792         \space
14793     \else
14794         /MK<<%
14795         \ifnum\Fld@rotation=\z@
14796         \else
14797             /R \Fld@rotation
14798         \fi
14799         \ifx\Fld@bordercolor\relax
14800         \else
14801             /BC[\Fld@bordercolor]%
14802         \fi
14803         \ifx\Fld@bcolor\relax
14804         \else
14805             /BG[\Fld@bcolor]%
14806         \fi
14807         >>%
14808     \fi
14809     /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14810         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

```

14811 \Fld@choices
14812 \Fld@additionalactions
14813 }

```

\PDFForm@Radio

```

14814 \def\PDFForm@Radio{%
14815 /Subtype/Widget%
14816 \Fld@annotflags
14817 \Fld@pageobjref
14818 \Fld@annotnames
14819 /FT/Btn%
14820 \Fld@flags
14821 /H/P%
14822 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14823 /MK<<%
14824 \ifnum\Fld@rotation=\z@
14825 \else
14826 /R \Fld@rotation
14827 \fi
14828 \ifx\Fld@bordercolor\relax
14829 \else
14830 /BC[\Fld@bordercolor]%
14831 \fi
14832 \ifx\Fld@bcolor\relax
14833 \else
14834 /BG[\Fld@bcolor]%
14835 \fi
14836 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14837 >>%
14838 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14839 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14840 \ifx\@currValue\Fld@default
14841 /V/\Fld@default
14842 /DV/\Fld@default
14843 \else
14844 /V/Off%
14845 /DV/Off%
14846 \fi
14847 \Fld@additionalactions
14848 }

```

\PDFForm@Text

```

14849 \def\PDFForm@Text{%
14850 /Subtype/Widget%
14851 \Fld@annotflags
14852 \Fld@pageobjref
14853 \Fld@annotnames
14854 /FT/Tx%
14855 \Fld@flags
14856 /Q \Fld@align

```

```

14857 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14858 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14859     \ifx\Fld@bordercolor\relax\else 1\fi
14860     \ifx\Fld@bcolor\relax \else 1\fi
14861     \space
14862 \else
14863 /MK<<%
14864     \ifnum\Fld@rotation=\z@
14865     \else
14866     /R \Fld@rotation
14867     \fi
14868     \ifx\Fld@bordercolor\relax
14869     \else
14870     /BC[\Fld@bordercolor]%
14871     \fi
14872     \ifx\Fld@bcolor\relax
14873     \else
14874     /BG[\Fld@bcolor]%
14875     \fi
14876 >>%
14877 \fi
14878 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14879     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14880 /DV(\Hy@escapestring{\Fld@default})%
14881 /V(\Hy@escapestring{\Fld@value})%
14882 \Fld@additionalactions
14883 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14884 }

```

\PDFForm@Submit

```

14885 \def\PDFForm@Submit{%
14886 /Subtype/Widget%
14887 \Fld@annotflags
14888 \Fld@pageobjref
14889 \Fld@annotnames
14890 /FT/Btn%
14891 \Fld@flags
14892 /H/P%
14893 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14894 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14895     \ifx\Fld@bordercolor\relax\else 1\fi
14896     \space
14897 \else
14898 /MK<<%
14899     \ifnum\Fld@rotation=\z@
14900     \else
14901     /R \Fld@rotation
14902     \fi
14903     \ifx\Fld@bordercolor\relax
14904     \else

```

```

14905      /BC[\Fld@bordercolor]%
14906      \fi
14907      >>%
14908      \fi
14909      /A<<%
14910      /S/SubmitForm%
14911      /F<<%
14912      /FS/URL%
14913      /F(\Hy@escapestring{\Form@action})%
14914      >>%
14915      \Fld@submitflags
14916      >>%
14917      \Fld@additionalactions
14918      }

```

\PDFForm@Reset

```

14919 \ifHy@pdfa
14920 \else
14921   \def\PDFForm@Reset{%
14922     /Subtype/Widget%
14923     \Fld@cannotflags
14924     \Fld@pageobjref
14925     \Fld@annotnames
14926     /FT/Btn%
14927     \Fld@flags
14928     /H/P%
14929     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14930     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14931       \ifx\Fld@bordercolor\relax\else 1\fi
14932       \space
14933     \else
14934       /MK<<%
14935       \ifnum\Fld@rotation=\z@
14936       \else
14937         /R \Fld@rotation
14938       \fi
14939       \ifx\Fld@bordercolor\relax
14940       \else
14941         /BC[\Fld@bordercolor]%
14942       \fi
14943       % /CA (Clear)
14944       % /AC (Done)
14945       >>%
14946       \fi
14947       /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14948       /A<</S/ResetForm>>%
14949       \Fld@additionalactions
14950     }%
14951     \fi

```

```
14952 </pdfform>
14953 <*package>
```

49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```
14954 \def\phantomsection{%
14955   \Hy@MakeCurrentHrefAuto{section*}%
14956   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14957 }
14958 </package>
```

49.1 Bookmarks

```
14959 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-}\TeX$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-}\TeX$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```
14960 \def\Hy@writebookmark#1#2#3#4#5{%
14961   % section number, text, label, level, file
14962   \ifx\WriteBookmarks\relax%
14963   \else
14964     \ifnum#4>\Hy@bookmarksdepth\relax
14965     \else
14966       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14967     \fi
```

```

14968 \fi
14969 }
14970 \def\Hy@currentbookmarklevel{0}
14971 \def\Hy@numberline#1{#1 }
14972 \def\@@writetorep#1#2#3#4#5{%
14973 \begingroup
14974 \edef\Hy@tempa{#5}%
14975 \ifx\Hy@tempa\Hy@bookmarkstype
14976 \edef\Hy@level{#4}%
14977 \ifx\Hy@levelcheck Y%
14978 \@tempcnta\Hy@level\relax
14979 \advance\@tempcnta by -1 %
14980 \ifnum\Hy@currentbookmarklevel<\@tempcnta
14981 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14982 \advance\@tempcnta by 1 %
14983 \Hy@Warning{%
14984 Difference (\the\@tempcnta) between bookmark levels is %
14985 greater \MessageBreak than one, level fixed%
14986 }%
14987 \@tempcnta\Hy@currentbookmarklevel
14988 \advance\@tempcnta by 1 %
14989 \edef\Hy@level{\the\@tempcnta}%
14990 \fi
14991 \else
14992 \global\let\Hy@levelcheck Y%
14993 \fi
14994 \global\let\Hy@currentbookmarklevel\Hy@level
14995 \@tempcnta\Hy@level\relax
14996 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14997 \advance\@tempcnta by -1 %
14998 \edef\Hy@tempa{#3}%
14999 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
15000 \ifx\Hy@tempa\Hy@tempb
15001 \Hy@Warning{%
15002 The anchor of a bookmark and its parent's must not%
15003 \MessageBreak be the same. Added a new anchor%
15004 }%
15005 \phantomsection
15006 \fi
15007 \ifHy@bookmarksnumbered
15008 \let\numberline\Hy@numberline
15009 \let\booknumberline\Hy@numberline
15010 \let\partnumberline\Hy@numberline
15011 \let\chapternumberline\Hy@numberline
15012 \else
15013 \let\numberline\@gobble
15014 \let\booknumberline\@gobble
15015 \let\partnumberline\@gobble
15016 \let\chapternumberline\@gobble
15017 \fi

```

```

15018 \HyPsd@XeTeXBigCharstrue
15019 \pdfstringdef\Hy@tempa{#2}%
15020 \HyPsd@SanitizeForOutFile\Hy@tempa
15021 \if@filesw
15022 \stepcounter{bookmark@seq@number}%
15023 \@ifundefined{@outlinefile}{%
15024 }{%
15025 \protected@write\@outlinefile{}{%
15026 \protect\BOOKMARK
15027 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
15028 {\Hy@tempa}{\Hy@tempb}%
15029 \@percentchar\space\thebookmark@seq@number
15030 }%
15031 }%
15032 \fi
15033 \fi
15034 \endgroup
15035 }
15036 \newcounter{bookmark@seq@number}

15037 \begingroup
15038 \lccode'('= '{%
15039 \lccode')='}%
15040 \lccode'1=\z@
15041 \lccode'2=\z@
15042 \lccode'3=\z@
15043 \lccode'5=\z@
15044 \lccode'7=\z@
15045 \lccode'\#=\z@
15046 \lccode'\='=\z@
15047 \lccode'\{=\z@
15048 \lccode'\}= \z@
15049 \lowercase{%
15050 \endgroup
15051 \def\HyPsd@SanitizeForOutFile#1{%
15052 \@onelevel@sanitize\Hy@tempa
15053 \escapechar'\%
15054 \edef\Hy@tempa{%
15055 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
15056 }%
15057 \edef\Hy@tempa{%
15058 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
15059 }%
15060 }%
15061 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
15062 #1%
15063 \ifx\#2\%
15064 \expandafter\ltx@gobble
15065 \else
15066 \expandafter\ltx@firstofone

```



```

15067 \fi
15068 {%
15069 \string\173%
15070 \HyPsd@SanitizeOut@BraceLeft#2\@nil
15071 }%
15072 }%
15073 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
15074 #1%
15075 \ifx\\#2\\%
15076 \expandafter\ltx@gobble
15077 \else
15078 \expandafter\ltx@firstofone
15079 \fi
15080 {%
15081 \string\175%
15082 \HyPsd@SanitizeOut@BraceRight#2\@nil
15083 }%
15084 }%
15085 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

15086 \newcommand{\currentpdfbookmark}{%
15087 \pdfbookmark[\Hy@currentbookmarklevel]%
15088 }
15089 \newcommand{\subpdfbookmark}{%
15090 \@tempcnta\Hy@currentbookmarklevel
15091 \Hy@StepCount\@tempcnta
15092 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
15093 }
15094 \newcommand{\belowpdfbookmark}[2]{%
15095 \@tempcnta\Hy@currentbookmarklevel
15096 \Hy@StepCount\@tempcnta
15097 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
15098 \advance\@tempcnta by -1 %
15099 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
15100 }

```

Tobias Oetiker rightly points out that we need a way to force a bookmark entry. So we introduce `\pdfbookmark`, with two parameters, the title, and a symbolic name. By default this is at level 1, but we can reset that with the optional first argument.

```

15101 \renewcommand\pdfbookmark[3][0]{%
15102 \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
15103 \hyper@anchorstart{#3.#1}\hyper@anchorend
15104 }
15105 \def\BOOKMARK{%
15106 \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
15107 }
15108 \def\@BOOKMARK[#1]{%
15109 \@ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%

```

15110 }

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfopdf macros.

49.1.1 Rerun warning

\Hy@OutlineRerunCheck

```
15111 \RequirePackage{rerunfilecheck}[2009/12/10]
15112 \def\Hy@OutlineRerunCheck{%
15113   \RerunFileCheck{\jobname.out}{%
15114     \immediate\closeout\@outlinefile
15115   }{%
15116     Rerun to get outlines right\MessageBreak
15117     or use package 'bookmark'%
15118   }%
15119 }
```

49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

```
15120 <*vtx>
15121 \newcount\@serial@counter\@serial@counter=1\relax
```

\hv@pdf@char Plain octal codes doesn't work with versions below 6.50. So for early versions hex numbers have to be used. It would be possible to program this instead of the large \ifcase, but I'm too lazy to sort that out now.

```
15122 \begingroup
15123   \catcode'\'=12 %
15124   \ifnum\Hy@VTeXversion<650 %
15125     \catcode\'=12 %
15126     \gdef\hv@pdf@char#1#2#3{%
15127       \char
15128       \ifcase'#1#2#3 %
15129         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
15130         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
15131         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
15132         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
15133         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
15134         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
15135         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
15136         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
15137         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
15138         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
15139         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
15140         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
15141         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
```

```

15142 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
15143 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
15144 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
15145 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
15146 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
15147 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
15148 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
15149 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
15150 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
15151 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
15152 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
15153 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
15154 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
15155 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
15156 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
15157 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
15158 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
15159 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
15160 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
15161 \fi
15162 }%
15163 \else
15164 \gdef\hv@pdf@char{\char'}%
15165 \fi
15166 \endgroup

```

\@@BOOKMARK

```

15167 \def\@@BOOKMARK[#1][#2]#3#4#5{%
15168 \expandafter\edef\csname @count@#3\endcsname{%
15169 \the\@serial@counter
15170 }%
15171 \edef\@mycount{\the\@serial@counter}%
15172 \Hy@StepCount\@serial@counter
15173 \edef\@parcount{%
15174 \expandafter\ifx\csname @count@#5\endcsname\relax
15175 0%
15176 \else
15177 \csname @count@#5\endcsname
15178 \fi
15179 }%
15180 \immediate\special{%
15181 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
15182 s=\ifx#2-c\else o\fi,t=#4%
15183 }%
15184 }%

```

\ReadBookmarks

```

15185 \def\ReadBookmarks{%
15186 \begingroup
15187 \def\0{\hv@pdf@char 0}%

```

```

15188 \def\1{\hv@pdf@char 1}%
15189 \def\2{\hv@pdf@char 2}%
15190 \def\3{\hv@pdf@char 3}%
15191 \def\{({}%
15192 \def\)}{)%
15193 \def\do##1{%
15194   \ifnum\catcode'\##1=\active
15195     \@makeother##1%
15196   \else
15197     \ifnum\catcode'\##1=6 %
15198       \@makeother##1%
15199     \fi
15200   \fi
15201 }%
15202 \dospecials
15203 \Hy@safe@activetrue
15204 \InputIfFileExists{\jobname.out}{\}{\}%
15205 \endgroup
15206 \ifx\WriteBookmarks\relax
15207 \else
15208   \if@filesw
15209     \newwrite\@outlinefile
15210     \Hy@OutlineRerunCheck
15211     \immediate\openout\@outlinefile=\jobname.out\relax
15212     \ifHy@typexml
15213       \immediate\write\@outlinefile{<relaxxml>\relax}%
15214     \fi
15215   \fi
15216 \fi
15217 }

15218 </vtex>
15219 <!*vtex>
15220 \def\ReadBookmarks{%
15221 \pdf@ifdraftmode{\}%
15222 \begingroup
15223 \def\do##1{%
15224   \ifnum\catcode'\##1=\active
15225     \@makeother##1%
15226   \else
15227     \ifnum\catcode'\##1=6 %
15228       \@makeother##1%
15229     \fi
15230   \fi
15231 }%
15232 \dospecials
15233 \Hy@safe@activetrue
15234 \escapechar='\%
15235 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15236   \calc@bm@number{##5}%

```

```

15237 }%
15238 \InputIfFileExists{\jobname.out}{-}{-}%
15239 \ifx\WriteBookmarks\relax
15240 \global\let\WriteBookmarks\relax
15241 \fi
15242 \def\@BOOKMARK[##1][##2]##3##4##5{%
15243 \def\Hy@temp{##4}%
15244 \<*pdftex>
15245 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15246 \Hy@OutlineName{\Hy@pstringName{
15247 ##2\check@bm@number{##3}}%
15248 }{%
15249 \expandafter\strip@prefix\meaning\Hy@temp
15250 }%
15251 \</pdftex>
15252 \<*pdfmark>
15253 \pdfmark{%
15254 pdfmark=/OUT,%
15255 Count={##2\check@bm@number{##3}},%
15256 Dest={##3},%
15257 Title=\expandafter\strip@prefix\meaning\Hy@temp
15258 }%
15259 \</pdfmark>
15260 \<*dvi*pdfm | xetex>
15261 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15262 \@pdfm@mark{%
15263 outline \ifHy@DvipdfmxOutlineOpen
15264 [%
15265 \ifnum##21>\z@
15266 \else
15267 -%
15268 \fi
15269 ] %
15270 \fi
15271 ##1<<%
15272 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
15273 /A<<%
15274 /S/GoTo%
15275 /D(\Hy@pstringName)%
15276 >>%
15277 >>%
15278 }%
15279 \</dvi*pdfm | xetex>
15280 }%
15281 \begingroup
15282 \def\WriteBookmarks{0}%
15283 \InputIfFileExists{\jobname.out}{-}{-}%
15284 \endgroup
15285 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
15286 \endgroup

```

```

15287 }%
15288 \ifx\WriteBookmarks\relax
15289 \else
15290 \if@filesw
15291 \newwrite\@outlinefile
15292 \Hy@OutlineRerunCheck
15293 \immediate\openout\@outlinefile=\jobname.out\relax
15294 \ifHy@typexml
15295 \immediate\write\@outlinefile{<relaxxml>\relax}%
15296 \fi
15297 \fi
15298 \fi
15299 }
15300 <*pdftex>
15301 \def\Hy@OutlineName#1#2#3#4{%
15302 \pdfoutline goto name{#2}count#3{#4}%
15303 }
15304 </pdftex>
15305 \def\check@bm@number#1{%
15306 \expandafter\ifx\csname B_#1\endcsname\relax
15307 0%
15308 \else
15309 \csname B_#1\endcsname
15310 \fi
15311 }
15312 \def\calc@bm@number#1{%
15313 \@tempcnta=\check@bm@number{#1}\relax
15314 \advance\@tempcnta by 1 %
15315 \expandafter\xdef\csname B_#1\endcsname{the\@tempcnta}%
15316 }
15317 </!vtex>
15318 \ifHy@implicit
15319 \else
15320 \expandafter\endinput
15321 \fi
15322 </outlines>
15323 <*outlines | hypertex>
15324 \newlength\Hy@SectionHShift
15325 \def\Hy@SectionAnchorHref#1{%
15326 \ifx\protect\@typeset@protect
15327 \Hy@@SectionAnchor{#1}%
15328 \fi
15329 }
15330 \DeclareRobustCommand*{\Hy@@SectionAnchor}[1]{%
15331 \leavevmode
15332 \hbox to 0pt{%
15333 \kern-\Hy@SectionHShift
15334 \Hy@raisedlink{%
15335 \hyper@anchorstart{#1}\hyper@anchorend

```

```

15336 }%
15337 \hss
15338 }%
15339 }
15340 \let\H@old@ssect\@ssect
15341 \def\@ssect#1#2#3#4#5{%
15342 \Hy@MakeCurrentHrefAuto{section*}%
15343 \setlength{\Hy@SectionHShift}{#1}%
15344 \begingroup
15345 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
15346 \toks\tw@\expandafter{%
15347 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15348 #5%
15349 }%
15350 \edef\x{\endgroup
15351 \the\toks@{\the\toks\tw@}}%
15352 }\x
15353 }
15354 \let\H@old@schapter\@schapter
15355 \def\@schapter#1{%
15356 \begingroup
15357 \let\@mkboth\@gobbletwo
15358 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15359 \Hy@raisedlink{%
15360 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15361 }%
15362 \endgroup
15363 \H@old@schapter{#1}%
15364 }

```

If there is no chapter number (`\frontmatter` or `\backmatter`) then the counting by `\refstepcounter{chapter}` is not executed, so there will be no destination for `\ddcontentsline`. So `\@chapter` is overloaded to avoid this:

```

15365 \ltx@ifundefined{@chapter}{-}{%
15366 \let\Hy@org@chapter\@chapter
15367 \def\@chapter{%
15368 \def\Hy@next{%
15369 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15370 \Hy@raisedlink{%
15371 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15372 }%
15373 }%
15374 \ifnum\c@secnumdepth>\m@ne
15375 \ltx@ifundefined{if@mainmatter}%
15376 \iftrue{\csname if@mainmatter\endcsname}%
15377 \let\Hy@next\relax
15378 \fi
15379 \fi
15380 \Hy@next
15381 \Hy@org@chapter

```

```

15382 }%
15383 }

15384 \let\H@old@part\@part
15385 \begingroup\expandafter\expandafter\expandafter\endgroup
15386 \expandafter\ifx\csname chapter\endcsname\relax
15387 \let\Hy@secnum@part\z@
15388 \else
15389 \let\Hy@secnum@part\m@ne
15390 \fi
15391 \def\@part{%
15392 \ifnum\Hy@secnum@part>\c@secnumdepth
15393 \phantomsection
15394 \fi
15395 \H@old@part
15396 }

15397 \let\H@old@spart\@spart
15398 \def\@spart#1{%
15399 \Hy@MakeCurrentHrefAuto{part*}%
15400 \Hy@raisedlink{%
15401 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15402 }%
15403 \H@old@spart{#1}%
15404 }

15405 \let\H@old@sect\@sect
15406 \def\@sect#1#2#3#4#5#6[#7]#8{%
15407 \ifnum #2>\c@secnumdepth
15408 \expandafter\@firstoftwo
15409 \else
15410 \expandafter\@secondoftwo
15411 \fi
15412 {%
15413 \Hy@MakeCurrentHrefAuto{section*}%
15414 \setlength{\Hy@SectionHShift}{#3}%
15415 \begingroup
15416 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[\@currentHref]}%
15417 \toks\tw@\expandafter{%
15418 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15419 #8%
15420 }%
15421 \edef\x{\endgroup
15422 \the\toks@{\the\toks\tw@}}%
15423 }\x
15424 }{%
15425 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[\@currentHref]{#8}%
15426 }%
15427 }

15428 </outlines | hypertex>
15429 <*outlines>

```



```

15430 \expandafter\def\csname Parent-4\endcsname{}
15431 \expandafter\def\csname Parent-3\endcsname{}
15432 \expandafter\def\csname Parent-2\endcsname{}
15433 \expandafter\def\csname Parent-1\endcsname{}
15434 \expandafter\def\csname Parent0\endcsname{}
15435 \expandafter\def\csname Parent1\endcsname{}
15436 \expandafter\def\csname Parent2\endcsname{}
15437 \expandafter\def\csname Parent3\endcsname{}
15438 \expandafter\def\csname Parent4\endcsname{}
15439 </outlines>

```

50 Compatibility with koma-script classes

```

15440 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

15441 \def\Hy@tempa{%
15442   \def\@addchap{##1}##2{%
15443     \typeout{##2}%
15444     \iftwoside
15445       \@mkboth{##1}{}%
15446     \else
15447       \@mkboth{}{##1}%
15448     \fi
15449     \addtocontents{lof}{\protect\addvspace{10\p@}}%
15450     \addtocontents{lot}{\protect\addvspace{10\p@}}%
15451     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15452     \Hy@raisedlink{%
15453       \hyper@anchorstart{\@currentHref}\hyper@anchorend
15454     }%
15455     \if@twocolumn
15456       \@topnewpage[\@makeschapterhead{##2}]%
15457     \else
15458       \@makeschapterhead{##2}%
15459       \@afterheading
15460     \fi
15461     \addcontentsline{toc}{chapter}{##1}%
15462   }%
15463 }
15464 \ifclassloaded{scrbook}{%
15465   \ifclasslater{scrbook}{2001/01/01}{%
15466     \let\Hy@tempa\@empty
15467   }{}%
15468 }{%
15469   \ifclassloaded{scrreprt}{%
15470     \ifclasslater{scrreprt}{2001/01/01}{%

```

```

15471 \let\Hy@tempa\@empty
15472 }{}%
15473 }{%
15474 \let\Hy@tempa\@empty
15475 }%
15476 }%
15477 \Hy@tempa
15478 </outlines | hypertex>

```

51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

51.1 PD1 encoding

```

15479 <*pd1enc>
15480 \DeclareFontEncoding{PD1}{}{}

Accents
15481 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15482 \DeclareTextAccent{'}{PD1}{\textacute}
15483 \DeclareTextAccent{`}{PD1}{\textasciicircum}
15484 \DeclareTextAccent{~}{PD1}{\texttilde}
15485 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
15486 \DeclareTextAccent{r}{PD1}{\textring}
15487 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15488 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15489 \DeclareTextAccent{c}{PD1}{\textcedilla}
15490 \DeclareTextAccent{=}{PD1}{\textasciimacron}
15491 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15492 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15493 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15494 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
15495 \DeclareTextCompositeCommand{`}{PD1}{\@empty}{\textasciicircum}
15496 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
15497 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
15498 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
15499 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
15500 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
15501 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
15502 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
15503 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
15504 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
15505 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textasciigrave}
15506 \DeclareTextCompositeCommand{'}{PD1}{\ }{\textacute}
15507 \DeclareTextCompositeCommand{`}{PD1}{\ }{\textasciicircum}
15508 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
15509 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}

```

```

15510 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15511 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15512 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15513 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15514 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15515 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15516 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15517 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15518 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15519 \DeclareTextCommand{\newtie}{PD1}[1]{%
15520   \TextSymbolUnavailable{\newtie{#1}}#1%
15521 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15522 % U+0009 (CHARACTER TABULATION)
15523 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15524 % U+000A (LINE FEED)
15525 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15526 % U+000D (CARRIAGE RETURN)
15527 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15528 % U+02D8 BREVE; breve
15529 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15530 % U+02C7 CARON; caron
15531 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15532 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15533 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15534 % U+02D9 DOT ABOVE; dotaccent
15535 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15536 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15537 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15538 % U+02DB OGONEK; ogonek
15539 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15540 % U+02DA RING ABOVE; ring
15541 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15542 % U+02DC SMALL TILDE; ilde, *tilde
15543 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15544 % U+0022 QUOTATION MARK; quotedbl
15545 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15546 % U+0023 NUMBER SIGN; numbersign
15547 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
15548 % U+0024 DOLLAR SIGN; dollar
15549 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
15550 % U+0025 PERCENT SIGN; percent
15551 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
15552 % U+0026 AMPERSAND; ampersand
15553 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

 15554 % U+0028 LEFT PARENTHESIS; parenleft
 15555 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 15556 % U+0029 RIGHT PARENTHESIS; parenright
 15557 \DeclareTextCommand{\textparenright}{PD1}{\string\}}% \051 U+0029

 \052: U+002A ASTERISK; asterisk
 \053: U+002B PLUS SIGN; plus
 \054: U+002C COMMA; comma
 \055: U+002D HYPHEN-MINUS; hyphen
 \056: U+002E FULL STOP; period
 15558 % U+002E FULL STOP; period
 15559 \DeclareTextCommand{\textdotbelow}{PD1}{.}% \056 U+002E

 \057: U+002F SOLIDUS; slash
 \060: U+0030 DIGIT ZERO; zero

 ...
 \071: U+0039 DIGIT NINE; nine
 \072: U+003A COLON; colon
 \073: U+003B SEMICOLON; semicolon
 15560 % U+003C LESS-THAN SIGN; less
 15561 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C

 \075: U+003D EQUALS SIGN; equal
 15562 % U+003E GREATER-THAN SIGN; greater
 15563 \DeclareTextCommand{\textgreater}{PD1}{>}% \076 U+003E

 \077: U+003F QUESTION MARK; question
 \100: U+0040 COMMERCIAL AT; at
 \101: U+0041 LATIN CAPITAL LETTER A; A

 ...
 \132: U+005A LATIN CAPITAL LETTER Z; Z
 \133: U+005B LEFT SQUARE BRACKET; bracketleft
 15564 % U+005C REVERSE SOLIDUS; backslash
 15565 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 15566 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 15567 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}

 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 15568 % U+005E CIRCUMFLEX ACCENT; asciicircum
 15569 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 15570 % U+005F LOW LINE; underscore
 15571 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 15572 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 15573 % U+0060 GRAVE ACCENT; grave
 15574 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060

 \141: U+0061 LATIN SMALL LETTER A; a

 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 15575 % U+0069 LATIN SMALL LETTER I; i

15576 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
\152: U+006A LATIN SMALL LETTER J; j
...
\172: U+007A LATIN SMALL LETTER Z; z
15577 % U+007B LEFT CURLY BRACKET; braceleft
15578 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
15579 % U+007C VERTICAL LINE; *bar, verticalbar
15580 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
15581 % U+007D RIGHT CURLY BRACKET; braceright
15582 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
15583 % U+007E TILDE; asciitilde
15584 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
Slot \177 (0x7F) is undefined in PDFDocEncoding.
15585 % U+2022 BULLET; bullet
15586 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
15587 % U+2020 DAGGER; dagger
15588 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
15589 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
15590 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
15591 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}
15592 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
15593 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
15594 % U+2014 EM DASH; emdash
15595 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
15596 % U+2013 EN DASH; endash
15597 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
15598 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
15599 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
15600 % U+2044 FRACTION SLASH; fraction
15601 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
15602 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
singleft
15603 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
15604 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
singright
15605 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
15606 % U+2212 MINUS SIGN; minus
15607 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
15608 % U+2030 PER MILLE SIGN; perthousand
15609 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
15610 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
15611 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
15612 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
15613 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
15614 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
15615 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
15616 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
15617 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
15618 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright

15619 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
15620 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
15621 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
15622 % U+2122 TRADE MARK SIGN; trademark
15623 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
15624 % U+FB01 LATIN SMALL LIGATURE FI; fi
15625 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
15626 % U+FB02 LATIN SMALL LIGATURE FL; fl
15627 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
15628 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15629 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
15630 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15631 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
15632 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15633 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
15634 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
15635 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178
15636 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
15637 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
15638 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
15639 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15640 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
15641 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15642 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
15643 % U+0153 LATIN SMALL LIGATURE OE; oe
15644 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
15645 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15646 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
15647 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
15648 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236}% U+017E

Slot \237 (0x9F) is not defined in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

15649 % U+20AC EURO SIGN; *Euro, euro
15650 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
15651 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15652 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
15653 % U+00A2 CENT SIGN; cent
15654 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
15655 % U+00A3 POUND SIGN; sterling
15656 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
15657 % U+00A4 CURRENCY SIGN; currency
15658 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
15659 % U+00A5 YEN SIGN; yen
15660 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
15661 % U+00A6 BROKEN BAR; brokenbar
15662 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
15663 % U+00A7 SECTION SIGN; section
15664 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
15665 % U+00A8 DIAERESIS; dieresis

15666 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 15667 % U+00A9 COPYRIGHT SIGN; copyright
 15668 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 15669 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 15670 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 15671 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motleft
 15672 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 15673 % U+00AC NOT SIGN; logicalnot
 15674 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 15675 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 15676 % U+00AE REGISTERED SIGN; registered
 15677 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 15678 % U+00AF MACRON; *macron, overscore
 15679 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
 15680 % U+00B0 DEGREE SIGN; degree
 15681 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
 15682 % U+00B1 PLUS-MINUS SIGN; plusminus
 15683 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
 15684 % U+00B2 SUPERSCRIP T TWO; twosuperior
 15685 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
 15686 % U+00B3 SUPERSCRIP T THREE; threesuperior
 15687 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
 15688 % U+00B4 ACUTE ACCENT; acute
 15689 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
 15690 % U+00B5 MICRO SIGN; mu, mul
 15691 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
 15692 % U+00B6 PILCROW SIGN; paragraph
 15693 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
 15694 % U+00B7 MIDDLE DOT; middot, *periodcentered
 15695 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
 15696 % U+00B8 CEDILLA; cedilla
 15697 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
 15698 % U+00B9 SUPERSCRIP T ONE; onesuperior
 15699 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
 15700 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 15701 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
 15702 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
 motright
 15703 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
 15704 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 15705 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
 15706 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 15707 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
 15708 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
 15709 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
 15710 % U+00BF INVERTED QUESTION MARK; questiondown
 15711 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF

15712 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15713 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
15714 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15715 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
15716 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15717 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
15718 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15719 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
15720 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15721 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
15722 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15723 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
15724 % U+00C6 LATIN CAPITAL LETTER AE; AE
15725 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
15726 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15727 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
15728 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15729 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
15730 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15731 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
15732 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15733 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
15734 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15735 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
15736 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15737 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
15738 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15739 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
15740 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15741 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
15742 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15743 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
15744 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15745 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
15746 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
15747 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15748 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
15749 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15750 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
15751 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15752 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
15753 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15754 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
15755 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15756 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
15757 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15758 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
15759 % U+00D7 MULTIPLICATION SIGN; multiply
15760 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
15761 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash

15762 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
15763 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15764 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9
15765 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15766 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
15767 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15768 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
15769 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15770 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
15771 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15772 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
15773 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15774 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
15775 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
15776 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15777 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
15778 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15779 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0
15780 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15781 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
15782 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15783 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
15784 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15785 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
15786 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15787 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
15788 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15789 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
15790 % U+00E6 LATIN SMALL LETTER AE; ae
15791 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
15792 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15793 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
15794 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15795 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8
15796 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15797 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
15798 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15799 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
15800 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15801 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
15802 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15803 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
15804 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC
15805 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15806 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
15807 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
15808 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15809 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
15810 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
15811 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis

```

15812 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
15813 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
15814 % U+00F0 LATIN SMALL LETTER ETH; eth
15815 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
15816 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15817 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
15818 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15819 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
15820 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15821 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15822 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15823 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
15824 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15825 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
15826 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15827 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
15828 % U+00F7 DIVISION SIGN; divide
15829 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15830 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15831 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15832 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15833 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
15834 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15835 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15836 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15837 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
15838 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15839 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
15840 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15841 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15842 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15843 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15844 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15845 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15846 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15847 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15848 \DeclareTextCommand{\SS}{PD1}{SS}%
15849 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15850 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15851 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15852 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15853 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15854 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%
15855 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15856 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15857 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15858 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15859 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15860 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15861 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15862 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15863 \DeclareTextCommand{\textbeta}{PD1}{\ss}%

```

Polish aliases. PDF encoding does not have the characters, but it is useful to Poles to have the plain letters regardless. Requested by Wojciech Myszka (W.Myszka@immt.pwr.wroc.pl).

```

15864 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15865 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15866 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15867 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15868 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15869 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15870 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot

15871 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15872 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15873 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15874 \DeclareTextCompositeCommand{\.}{PD1}{N}{N}% Nacute
15875 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15876 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15877 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

15878 </pd1enc>

```

51.2 PU encoding

```

15879 <*puenc>
15880 \DeclareFontEncoding{PU}{-}{-}

```

51.2.1 NFSS2 accents

```

15881 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15882 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15883 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15884 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15885 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15886 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15887 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15888 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15889 % U+0304 COMBINING MACRON; macroncmb
15890 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15891 % U+0306 COMBINING BREVE; brevecmb
15892 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15893 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15894 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15895 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15896 % U+0308 COMBINING DIAERESIS; dieresiscmb
15897 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15898 % U+030A COMBINING RING ABOVE; ringcmb

```

15899 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
 15900 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
 15901 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
 15902 % U+030C COMBINING CARON; caroncmb
 15903 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
 15904 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 15905 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
 15906 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
 15907 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 15908 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
 15909 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 15910 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
 15911 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
 laut (tipa)
 15912 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
 15913 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
 15914 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
 15915 % U+0327 COMBINING CEDILLA; cedillacmb
 15916 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
 15917 % U+0328 COMBINING OGONEK; ogonekcmb
 15918 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
 15919 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
 15920 % \textsubcircum (tipa)
 15921 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
 15922 % U+032E COMBINING BREVE BELOW; brevebelowcmb
 15923 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
 15924 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
 15925 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
 15926 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 15927 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
 15928 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
 blecmb
 15929 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
 15930 % U+20DD COMBINING ENCLOSING CIRCLE
 15931 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

Double accents.

15932 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
 15933 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}% U+0300 U+0304

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty
 arguments and spaces.

15934 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}%
 15935 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
 15936 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
 15937 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
 15938 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
 15939 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
 15940 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
 15941 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
 15942 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%

15943 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15944 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15945 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15946 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15947 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15948 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311
15949 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324
15950 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15951 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}%
15952 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E
15953 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15954 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15955 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15956 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15957 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15958 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15959 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U+
15960 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U+
15961 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%
15962 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15963 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15964 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15965 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15966 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15967 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15968 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15969 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15970 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15971 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15972 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15973 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15974 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15975 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311
15976 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324
15977 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15978 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15979 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E
15980 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%
15981 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15982 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15983 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15984 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15985 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15986 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304
15987 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

Accents for capitals (see encoding TS1)
15988 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15989 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%

```

15990 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15991 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15992 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15993 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15994 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%
15995 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15996 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15997 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15998 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15999 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
16000 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
16001 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
16002 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

16003 % U+0009 (CHARACTER TABULATION)
16004 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
16005 % U+000A (LINE FEED)
16006 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
16007 % U+000D (CARRIAGE RETURN)
16008 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
16009 % U+0022 QUOTATION MARK; quotedbl
16010 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
16011 % U+0023 NUMBER SIGN; numbersign
16012 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
16013 % U+0024 DOLLAR SIGN; dollar
16014 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
16015 %* \textdollar -> \mathdollar
16016 %* \textdollar -> \EyesDollar (marvosym)
16017 % U+0025 PERCENT SIGN; percent
16018 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
16019 % U+0026 AMPERSAND; ampersand
16020 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
16021 %* \textampersand -> \binampersand (stmaryrd)
16022 %* \textampersand -> \with (cmll)
16023 % U+0027 APOSTROPHE; quotesingle
16024 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
16025 % U+0028 LEFT PARENTHESIS; parenleft
16026 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
16027 % U+0029 RIGHT PARENTHESIS; parenright
16028 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
16029 % U+002A ASTERISK; asterisk; (?)
16030 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
16031 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
16032 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
16033 % U+002C COMMA; comma; \MVComma (marvosym)

```

```

16034 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
16035 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
16036 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
16037 % U+002E FULL STOP; period; \MVPeriod (marvosym)
16038 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
16039 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
16040 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
16041 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
16042 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
16043 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
16044 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
16045 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
16046 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
16047 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
16048 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
16049 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
16050 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
16051 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
16052 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
16053 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
16054 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
16055 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
16056 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
16057 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
16058 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
16059 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
16060 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039
\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon
16061 % U+003C LESS-THAN SIGN; less
16062 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
16063 % U+003E GREATER-THAN SIGN; greater
16064 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E
\80\077: U+003F QUESTION MARK; question
16065 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)
16066 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%* U+0040
\80\101: U+0041 LATIN CAPITAL LETTER A; A
...
\80\132: U+005A LATIN CAPITAL LETTER Z; Z
\80\133: U+005B LEFT SQUARE BRACKET; bracketleft
16067 % U+005C REVERSE SOLIDUS; backslash
16068 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
16069 % U+005E CIRCUMFLEX ACCENT; asciicircum
16070 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E

```

16071 % U+005F LOW LINE; underscore
 16072 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
 16073 %* \textunderscore -> \mathunderscore (LaTeX)
 16074 % U+0060 GRAVE ACCENT; grave
 16075 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060
 \80\141: U+0061 LATIN SMALL LETTER A; a
 ...
 \80\150: U+0068 LATIN SMALL LETTER H; h
 16076 % U+0069 LATIN SMALL LETTER I; i
 16077 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
 16078 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
 \80\152: U+006A LATIN SMALL LETTER J; j
 ...
 \80\172: U+007A LATIN SMALL LETTER Z; z
 16079 % U+007B LEFT CURLY BRACKET; braceleft
 16080 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 16081 % U+007C VERTICAL LINE; *bar, verticalbar
 16082 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 16083 %* \textbar -> \textvertline (tipa)
 16084 % U+007D RIGHT CURLY BRACKET; braceright
 16085 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 16086 % U+007E TILDE; asciitilde
 16087 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

51.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
 16088 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 16089 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 16090 % U+00A2 CENT SIGN; cent
 16091 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 16092 % U+00A3 POUND SIGN; sterling
 16093 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 16094 %* \textsterling -> \mathsterling (LaTeX)
 16095 %* \textsterling -> \pounds (LaTeX)
 16096 % U+00A4 CURRENCY SIGN; currency
 16097 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 16098 % U+00A5 YEN SIGN; yen
 16099 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 16100 % U+00A6 BROKEN BAR; brokenbar
 16101 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 16102 %* \textbrokenbar -> \brokenvert (wasysym)
 16103 % U+00A7 SECTION SIGN; section
 16104 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 16105 %* \textsection -> \mathsection (LaTeX)
 16106 %* \textsection -> \S (LaTeX)
 16107 % U+00A8 DIAERESIS; dieresis
 16108 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8

16109 % U+00A9 COPYRIGHT SIGN; copyright
 16110 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
 16111 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 16112 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 16113 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft
 16114 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 16115 % U+00AC NOT SIGN; logicalnot
 16116 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 16117 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 \80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 16118 % U+00AE REGISTERED SIGN; registered
 16119 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 16120 % U+00AF MACRON; *macron, overscore
 16121 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 16122 % U+00B0 DEGREE SIGN; degree
 16123 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
 16124 % U+00B1 PLUS-MINUS SIGN; plusminus
 16125 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
 16126 % U+00B2 SUPERSCRIFT TWO; twosuperior
 16127 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
 16128 % U+00B3 SUPERSCRIFT THREE; threesuperior
 16129 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
 16130 % U+00B4 ACUTE ACCENT; acute
 16131 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
 16132 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
 16133 % U+00B5 MICRO SIGN; mu, mul
 16134 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
 16135 % U+00B6 PILCROW SIGN; paragraph
 16136 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
 16137 %* \textparagraph -> \mathparagraph (LaTeX)
 16138 % U+00B7 MIDDLE DOT; middot, *periodcentered
 16139 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
 16140 %* \textperiodcentered -> \MultiplicationDot (marvosym)
 16141 %* \textperiodcentered -> \Squaredot (marvosym)
 16142 % U+00B8 CEDILLA; cedilla
 16143 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
 16144 % U+00B9 SUPERSCRIFT ONE; onesuperior
 16145 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
 16146 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
 16147 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
 16148 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright
 16149 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
 16150 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
 16151 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
 16152 % U+00BD VULGAR FRACTION ONE HALF; onehalf
 16153 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
 16154 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters

16155 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
16156 % U+00BF INVERTED QUESTION MARK; questiondown
16157 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
16158 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
16159 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
16160 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
16161 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
16162 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
16163 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
16164 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
16165 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
16166 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
16167 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
16168 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
16169 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
16170 % U+00C6 LATIN CAPITAL LETTER AE; AE
16171 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
16172 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
16173 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
16174 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
16175 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
16176 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
16177 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
16178 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
16179 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
16180 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
16181 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
16182 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
16183 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
16184 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
16185 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
16186 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
16187 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
16188 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
16189 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
16190 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
16191 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
16192 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
16193 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
16194 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
16195 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
16196 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
16197 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
16198 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
16199 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
16200 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
16201 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
16202 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
16203 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
16204 % U+00D7 MULTIPLICATION SIGN; multiply

16205 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
16206 %* \textmultiply -> \vartimes (stmaryrd)
16207 %* \textmultiply -> \MVMultiplication (marvosym)
16208 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
16209 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
16210 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
16211 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
16212 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
16213 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
16214 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
16215 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
16216 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
16217 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
16218 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
16219 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
16220 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
16221 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
16222 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
16223 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
16224 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
16225 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
16226 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
16227 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
16228 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
16229 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
16230 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
16231 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
16232 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
16233 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
16234 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
16235 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
16236 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
16237 % U+00E6 LATIN SMALL LETTER AE; ae
16238 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
16239 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
16240 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
16241 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
16242 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
16243 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
16244 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
16245 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
16246 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
16247 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
16248 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
16249 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
16250 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
16251 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
16252 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
16253 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
16254 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED

16255 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
 16256 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
 16257 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
 16258 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 16259 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
 16260 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
 16261 % U+00F0 LATIN SMALL LETTER ETH; eth
 16262 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 16263 %* \dh -> \eth (wsuiipa, phonetic)
 16264 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 16265 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
 16266 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 16267 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
 16268 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 16269 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 16270 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 16271 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
 16272 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 16273 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 16274 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 16275 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 16276 % U+00F7 DIVISION SIGN; divide
 16277 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 16278 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 16279 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 16280 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 16281 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 16282 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 16283 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 16284 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 16285 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 16286 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 16287 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 16288 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 16289 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 16290 % U+00FE LATIN SMALL LETTER THORN; thorn;
 16291 % \th, \thorn (wasysym), \textthorn (tipa)
 16292 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 16293 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
 16294 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 16295 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

51.2.4 Latin Extended-A: U+0080 to U+017F

16296 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 16297 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 16298 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 16299 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 16300 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 16301 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102

16302 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
16303 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
16304 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
16305 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
16306 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
16307 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
16308 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
16309 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
16310 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
16311 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
16312 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
16313 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
16314 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
16315 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
16316 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-
cent
16317 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
16318 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
16319 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
16320 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
16321 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
16322 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
16323 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
16324 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
16325 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
16326 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
16327 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
16328 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
16329 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
16330 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
16331 % \textcrd (tipa)
16332 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
16333 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111
16334 %* \textcrd -> \crossd (wsuipa)
16335 % An alternate glyph with the stroke through the bowl:
16336 %* \textcrd -> \textbard (tipa)
16337 %* \textcrd -> \bard (wsuipa)
16338 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
16339 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
16340 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
16341 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
16342 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
16343 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
16344 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
16345 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
16346 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
16347 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
16348 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
16349 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
16350 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek

16351 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
16352 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
16353 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
16354 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
16355 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
16356 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
16357 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
16358 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
16359 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
16360 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
16361 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
16362 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
16363 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
16364 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
16365 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
16366 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-
cent
16367 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
16368 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
16369 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
16370 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-
mmaaccent
16371 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
16372 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
16373 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
16374 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
16375 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
16376 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
16377 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
16378 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
16379 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
16380 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)
16381 \DeclareTextCommand{\texthbar}{PU}{\81\047}%* U+0127
16382 %* \texthbar -> \textcrh (tipa)
16383 %* \texthbar -> \crossh (wsuipa)
16384 %* \texthbar -> \planck (phonetic)
16385 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
16386 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
16387 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
16388 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
16389 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
16390 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
16391 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
16392 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
16393 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
16394 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
16395 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
16396 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
16397 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
16398 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D

```

16399 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
16400 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
16401 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
16402 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
16403 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16404 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
16405 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
16406 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
16407 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
16408 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
16409 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
16410 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
16411 % U+0133 LATIN SMALL LIGATURE IJ; ij
16412 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
16413 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
16414 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
16415 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
16416 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16417 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
16418 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
16419 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
16420 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
16421 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be \textkgreenlandic,
following the glyph naming convention. However latex/base/inputenc.dtx has
choosen \textkra.
16422 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
16423 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
16424 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
16425 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
16426 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
16427 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
16428 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
16429 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
16430 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
16431 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
16432 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
16433 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
16434 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
16435 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076}% U+013E

There seems to be no variants of letters 'L' and 'l' with a dot above (reasonable).
Therefore the \. accent is reused instead of making a separate accent macro
\textmiddledot.
16436 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
16437 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
16438 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent

```

16439 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 16440 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 16441 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 16442 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 16443 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 16444 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 16445 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 16446 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 16447 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 16448 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
 cent
 16449 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 16450 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 16451 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 16452 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 16453 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 16454 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 16455 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 16456 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
 trophe, quoterightn
 16457 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 16458 % U+014A LATIN CAPITAL LETTER ENG; Eng
 16459 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 16460 % U+014B LATIN SMALL LETTER ENG; eng
 16461 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 16462 %* \ng -> \eng (wsuipa)
 16463 %* \ng -> \engma (phonetic)
 16464 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 16465 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
 16466 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 16467 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
 16468 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 16469 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 16470 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 16471 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 16472 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-
 cute, Ohungarumlaut
 16473 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 16474 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-
 cute, ohungarumlaut
 16475 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 16476 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 16477 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 16478 % U+0153 LATIN SMALL LIGATURE OE; oe
 16479 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
 16480 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 16481 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 16482 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 16483 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 16484 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-

cent

16485 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
16486 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
16487 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
16488 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
16489 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
16490 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
16491 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
16492 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
16493 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
16494 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
16495 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
16496 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
16497 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
16498 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
16499 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
16500 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
16501 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
16502 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
16503 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
16504 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
16505 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
16506 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
16507 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
16508 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
16509 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
16510 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
16511 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
16512 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
16513 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
16514 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
16515 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
16516 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
16517 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
16518 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
16519 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
16520 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
16521 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
16522 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
16523 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
16524 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
16525 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
16526 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
16527 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
16528 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
16529 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
16530 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
16531 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
16532 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring

16533 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 16534 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 16535 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 16536 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
 16537 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 16538 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
 16539 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 16540 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 16541 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 16542 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 16543 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 16544 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 16545 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 16546 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 16547 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 16548 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 16549 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 16550 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 16551 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 16552 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 16553 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 16554 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 16555 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 16556 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 16557 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 16558 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 16559 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 16560 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 16561 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 16562 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 16563 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 16564 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 16565 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 16566 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 16567 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

51.2.5 Latin Extended-B: U+0180 to U+024F

16568 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
 16569 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
 16570 %* \textcrb -> \crossb (wsuipa)
 16571 % An alternate glyph with the stroke through the bowl:
 16572 %* \textcrb -> \textbarb (tipa)
 16573 %* \textcrb -> \barb (wsuipa)
 16574 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)
 16575 \DeclareTextCommand{\texthausab}{PU}{\81\201}%* U+0181
 16576 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
 16577 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188

16578 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-
 netic)
 16579 \DeclareTextCommand{\texthausad}{PU}{\81\212}%* U+018A
 16580 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed
 16581 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E
 16582 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
 16583 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 16584 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 16585 %* \textflorin -> \Florin (marvosym)
 16586 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
 16587 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
 16588 %* \texthvlig -> \hv (wsuipa)
 16589 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
 netic)
 16590 \DeclareTextCommand{\texthausak}{PU}{\81\230}%* U+0198
 16591 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
 16592 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
 16593 %* \texthtk -> \hausak (phonetic)
 16594 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
 16595 % \textbarl (tipa), \barl (wsuipa)
 16596 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
 16597 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
 16598 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
 16599 % \textcrlambda (tipa)
 16600 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
 16601 %* \textcrlambda -> \crossnilambda (wsuipa)
 16602 %* \textcrlambda -> \barlambd (phonetic)
 16603 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
 16604 %* \textcrlambda -> \lambdaslash (txfonts/pxfonts)
 16605 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
 long;
 16606 % \textnrleg (tipx)
 16607 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
 16608 %* \textPUnrleg -> \textnrleg (tipx)
 16609 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)
 16610 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5
 16611 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
 16612 % \textlhookt (tipa)
 16613 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
 16614 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
 16615 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
 16616 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
 16617 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
 16618 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
 16619 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
 16620 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
 16621 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
 16622 % glottalinvertedstroke; \textcrinvglotstop (tipa)
 16623 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
 16624 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)

16625 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
16626 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
tal;
16627 % \textpipe (tipa)
16628 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
16629 %* \textpipe -> \textpipevar (tipx)
16630 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
16631 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
16632 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
16633 %* \textdoublepipe -> \textdoublepipevar (tipx)
16634 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
BLE BAR;
16635 % clickalveolar; \textdoublebarpipe (tipa)
16636 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
16637 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
16638 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
16639 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
16640 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
16641 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
16642 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
16643 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
16644 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
16645 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
16646 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
16647 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
16648 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
16649 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
16650 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
16651 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
16652 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
16653 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
16654 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
16655 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
16656 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
16657 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
16658 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
16659 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
16660 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
16661 %* \textgslash -> \textcrg (tipa)
16662 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
16663 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
16664 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
16665 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
16666 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
16667 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
16668 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
16669 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
16670 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
16671 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\352}% U+01EA
16672 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek

16673 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
16674 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
16675 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
16676 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
16677 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
16678 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
16679 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
16680 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
16681 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
16682 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8
16683 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
16684 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
16685 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
16686 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
16687 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
16688 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
16689 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
16690 % *Oslashacute, Ostrokeacute
16691 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
16692 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
16693 % *oslashacute, ostrokeacute
16694 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
16695 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
16696 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
16697 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
16698 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
16699 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
16700 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
16701 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
16702 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
16703 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
16704 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
16705 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-
breve
16706 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
16707 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
16708 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
16709 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
16710 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
16711 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
16712 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-
breve
16713 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
16714 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-
breve
16715 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
16716 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\i}{\82\013}% U+020B
16717 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
16718 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C

16719 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
 16720 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
 16721 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-
 edbreve
 16722 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
 16723 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
 breve
 16724 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
 16725 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 16726 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 16727 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 16728 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 16729 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 16730 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 16731 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 16732 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 16733 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
 edbreve
 16734 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216
 16735 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-
 breve
 16736 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
 16737 % U+021E LATIN CAPITAL LETTER H WITH CARON
 16738 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 16739 % U+021F LATIN SMALL LETTER H WITH CARON
 16740 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 16741 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)
 16742 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
 16743 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
 16744 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225
 16745 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 16746 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 16747 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 16748 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 16749 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 16750 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 16751 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 16752 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 16753 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 16754 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 16755 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 16756 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 16757 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 16758 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 16759 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 16760 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 16761 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 16762 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 16763 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 16764 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236

16765 % U+0237 LATIN SMALL LETTER DOTLESS J
 16766 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 16767 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)
 16768 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238
 16769 %* \textPUdblig -> \textdblig (tipx)
 16770 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 16771 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239
 16772 %* \textPUqplig -> \textqplig (tipx)
 16773 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 16774 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 16775 %* \textslashc -> \textcentoldstyle (textcomp)
 16776 % With bar instead of stroke:
 16777 %* \textslashc -> \textbarc (tipa)

51.2.6 IPA Extensions: U+0250 to U+02AF

16778 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 16779 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 16780 %* \textturna -> \inva (wasysym)
 16781 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 16782 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 16783 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 16784 %* \textscripta -> \vara (phonetic)
 16785 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;
 16786 % \textturnscripta (tipa)
 16787 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 16788 %* \textturnscripta -> \invscripta (wsuipa)
 16789 %* \textturnscripta -> \rotvara (phonetic)
 16790 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 16791 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 16792 %* \texthtb -> \hookb (wsuipa)
 16793 %* \texthtb -> \hausab (phonetic)
 16794 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 16795 % \textopeno (tipa), \openo (wasysym)
 16796 \DeclareTextCommand{\textopeno}{PU}{\82\124}%* U+0254
 16797 %* \textopeno -> \varopeno (phonetic)
 16798 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 16799 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 16800 %* \textctc -> \curlyc (wsuipa)
 16801 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 16802 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%* U+0256
 16803 %* \textrtaild -> \taild (wsuipa)
 16804 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 16805 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 16806 %* \texthtd -> \hookd (wsuipa)
 16807 %* \texthtd -> \hausad (phonetic)
 16808 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 16809 % \textreve (tipa), \reve (wsuipa)
 16810 \DeclareTextCommand{\textreve}{PU}{\82\130}%* U+0258
 16811 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 16812 % \textschwa (tipa), \schwa (wsuipa, phonetic)

```

16813 \DeclareTextCommand{\textschwa}{PU}{\82\131}%* U+0259
16814 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
16815 % \textrhookschwa (tipa)
16816 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
16817 %* \textrhookschwa -> \er (wsuipa)
16818 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
      SILON; eopen;
16819 % \niepsilon (wsuipa)
16820 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%* U+025B
16821 %* \textniepsilon -> \epsi (phonetic)
16822 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
16823 % \textrepsilon (tipa), \revepsilon (wsuipa)
16824 \DeclareTextCommand{\textrepsilon}{PU}{\82\134}%* U+025C
16825 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
      reversedhook;
16826 % \textrhookrepsilon (tipa)
16827 \DeclareTextCommand{\textrhookrepsilon}{PU}{\82\135}%* U+025D
16828 %* \textrhookrepsilon -> \hookrepsilon (wsuipa)
16829 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
      versedclosed;
16830 % \textcloserepsilon (tipa)
16831 \DeclareTextCommand{\textcloserepsilon}{PU}{\82\136}% U+025E
16832 %* \textcloserepsilon -> \closedrepsilon (wsuipa)
16833 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
      lessstroke;
16834 % \textbardotlessj (tipa)
16835 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
16836 %* \textbardotlessj -> \barj (phonetic)
16837 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
16838 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
16839 %* \texthtg -> \hookg (wsuipa)
16840 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
16841 % \textscriptg (tipa), \scriptg (wsuipa)
16842 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%* U+0261
16843 %* \textscriptg -> \varg (phonetic)
16844 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
16845 \DeclareTextCommand{\textscg}{PU}{\82\142}%* U+0262
16846 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;
16847 % \ipagamma (wsuipa), \vod (phonetic)
16848 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
16849 %* \textipagamma -> \vod (pnonetic)
16850 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
16851 % \babygamma (wsuipa)
16852 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
16853 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
16854 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
16855 %* \textturnh -> \invh (wsuipa)
16856 %* \textturnh -> \udesc (phonetic)
16857 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
16858 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266

```


16859 %* \texthth -> \hookh (wsuipa)
 16860 %* \texthth -> \voicedh (phonetic)
 16861 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)
 16862 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267
 16863 %* \texththeng -> \hookheng (wsuipa)
 16864 % U+0268 LATIN SMALL LETTER I WITH STROKE;
 16865 % \textbari (tipa), \bari (wsuipa)
 16866 \DeclareTextCommand{\textbari}{PU}{\82\150}%* U+0268
 16867 %* \textbari -> \ibar (phonetic)
 16868 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)
 16869 \DeclareTextCommand{\textniiota}{PU}{\82\151}%* U+0269
 16870 %* \textniiota -> \vari (phonetic)
 16871 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
 16872 \DeclareTextCommand{\textsci}{PU}{\82\152}%* U+026A
 16873 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
 16874 % \textltilde (tipa)
 16875 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
 16876 %* \textltilde -> \tildel (wsuipa)
 16877 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)
 16878 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
 16879 %* \textbeltl -> \latfric (wsuipa)
 16880 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
 16881 % lhookretroflex; \textrtaill (tipa)
 16882 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D
 16883 %* \textrtaill -> \taill (wsuipa)
 16884 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)
 16885 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
 16886 %* \textlyoghlig -> \lz (wsuipa)
 16887 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)
 16888 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F
 16889 %* \textturnm -> \invm (wsuipa)
 16890 %* \textturnm -> \rotm (phonetic)
 16891 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlonglegturned;
 16892 % \textturnmrleg (tipa)
 16893 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270
 16894 %* \textturnmrleg -> \legm (wsuipa)
 16895 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)
 16896 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
 16897 %* \textltailm -> \labdentalnas (wsuipa)
 16898 %* \textltailm -> \emgma (phonetic)
 16899 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)
 16900 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
 16901 %* \textltailn -> \nj (wsuipa)
 16902 %* \textltailn -> \enya (phonetic)
 16903 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
 16904 % nhookretroflex; \textrtailn (tipa)
 16905 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273

16906 %* \textrtailn -> \tailn (wsuipa)
 16907 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
 16908 \DeclareTextCommand{\textscn}{PU}{\82\164}%* U+0274
 16909 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
 16910 % LATIN CAPITAL LETTER BARRED O; obarred;
 16911 % \textbaro (tipa), \baro (wsuipa)
 16912 % But \baro from stmaryrd is different!
 16913 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
 16914 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscœlig (tipa)
 16915 \DeclareTextCommand{\textscœlig}{PU}{\82\166}% U+0276
 16916 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;
 16917 % \textcloseomega (tipa)
 16918 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
 16919 %* \textcloseomega -> \closedniomega (wsuipa)
 16920 %* \textcloseomega -> \varomega (phonetic)
 16921 % U+0278 LATIN SMALL LETTER PHI; philatin; \nipher (wsuipa)
 16922 \DeclareTextCommand{\textnipher}{PU}{\82\170}%* U+0278
 16923 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
 16924 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
 16925 %* \textturnr -> \invr (wsuipa)
 16926 %* \textturnr -> \rotr (phonetic)
 16927 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
 16928 % rlonglegturned; \textturnlongleg (tipa)
 16929 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
 16930 %* \textturnlongleg -> \invleg (wsuipa)
 16931 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;
 16932 % \textturnrrtail (tipa)
 16933 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
 16934 %* \textturnrrtail -> \tailinvr (wsuipa)
 16935 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)
 16936 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%* U+027C
 16937 %* \textlongleg -> \leg (wsuipa)
 16938 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoctail; \textrtailr (tipa)
 16939 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D
 16940 %* \textrtailr -> \tailr (wsuipa)
 16941 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rhocthook;
 16942 % \textfishhookr (tipa)
 16943 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
 16944 %* \textfishhookr -> \flapr (wsuipa)
 16945 %* \textfishhookr -> \flap (phonetic)
 16946 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rhocthookreversed;
 16947 % \textlhtlongi (tipa)
 16948 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
 16949 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)
 16950 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
 16951 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
 16952 % \textinvscr (tipa), \invscr (wsuipa)
 16953 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281

16954 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)
 16955 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282
 16956 %* \texttrails -> \tails (wsuipa)
 16957 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
 16958 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
 16959 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
 16960 % dotlessstrokehook; \texthtbardotlessj (tipa)
 16961 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
 16962 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquat-
 versed;
 16963 % \textvibi (tipa)
 16964 \DeclareTextCommand{\textvibi}{PU}{\82\205}% U+0285
 16965 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
 16966 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
 16967 %* \textctesh -> \curlyesh (wsuipa)
 16968 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
 16969 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
 16970 %* \textturnt -> \clickt (wsuipa)
 16971 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-
 hook;
 16972 % \texttrtailt (tipa)
 16973 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288
 16974 %* \texttrtailt -> \tailt (wsuipa)
 16975 % U+0289 LATIN SMALL LETTER U BAR; ubar;
 16976 % \textbaru (tipa), \baru (wsuipa)
 16977 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
 16978 %* \textbaru -> \ubar (phonetic)
 16979 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
 16980 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
 16981 %* \textniupsilon -> \rotOmega (phonetic)
 16982 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
 TER SCRIPT V;
 16983 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
 16984 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
 16985 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
 16986 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
 16987 %* \textturnv -> \invv (wsuipa)
 16988 %* \textturnv -> \pwedge (phonetic)
 16989 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
 16990 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
 16991 %* \textturnw -> \invw (wsuipa)
 16992 %* \textturnw -> \rotw (phonetic)
 16993 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
 16994 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
 16995 %* \textturny -> \invy (wsuipa)
 16996 %* \textturny -> \roty (phonetic)
 16997 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
 16998 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
 16999 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
 hook;

17000 % \texttrtailz (tipa)
17001 \DeclareTextCommand{\texttrtailz}{PU}{\82\220}% U+0290
17002 %* \texttrtailz -> \tailz (wsuipa)
17003 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
17004 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
17005 %* \textctz -> \curlyz (wsuipa)
17006 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
17007 % \textyogh (tipa), \yogh (wsuipa)
17008 \DeclareTextCommand{\textyogh}{PU}{\82\222}% U+0292
17009 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;
17010 % ezhcurl; \textctyogh (tipa)
17011 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
17012 %* \textctyogh -> \curlyyogh (wsuipa)
17013 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
17014 % \textglotstop (tipa), \glotstop (wsuipa)
17015 \DeclareTextCommand{\textglotstop}{PU}{\82\224}% U+0294
17016 %* \textglotstop -> \ejective (wsuipa)
17017 %* \textglotstop -> \glottal (phonetic)
17018 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
17019 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
17020 % \textrevglotstop (tipa), \revglotstop (wsuipa)
17021 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}% U+0295
17022 %* \textrevglotstop -> \reveject (wsuipa)
17023 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
17024 % \textinvglotstop (tipa), \invglotstop (wsuipa)
17025 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}% U+0296
17026 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
17027 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
17028 %* \textstretchc -> \clickc (wsuipa)
17029 %* \textstretchc -> \textstretchcvar (tipx)
17030 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
17031 % \textbullseye (tipa)
17032 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
17033 %* \textbullseye -> \clickb (wsuipa)
17034 %* \textbullseye -> \textObullseye (tipx)
17035 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
17036 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
17037 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;
17038 % \textcloseepsilon (tipa)
17039 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A
17040 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
17041 % \texthtscg (tipa)
17042 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
17043 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
17044 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
17045 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-tail; \textcdj (tipa)
17046 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
17047 %* \textctj -> \textctjvar (tipx)

17048 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)
 17049 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
 17050 %* \textturnk -> \textturnsck (tipx)
 17051 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)
 17052 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F
 17053 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
 17054 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
 17055 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-
 stroke;
 17056 % \textbarglotstop (tipa)
 17057 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
 17058 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
 17059 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-
 versed;
 17060 % \textbarrevglotstop (tipa)
 17061 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
 17062 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
 17063 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
 17064 %* \textdzlig -> \dz (wsupipa)
 17065 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
 lig (tipa)
 17066 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
 17067 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
 17068 % \textdctzlig (tipa)
 17069 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
 17070 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
 17071 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
 17072 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)
 17073 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7
 17074 %* \texttshlig -> \tesh (wsuipa)
 17075 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 17076 % \texttctclig (tipa)
 17077 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 17078 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 17079 % \textlhtlongy (tipa)
 17080 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 17081 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 17082 % \textvibyy (tipa)
 17083 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

17084 % U+02BD MODIFIER LETTER REVERSED COMMA;
 17085 % commareversedmod, afi64937; \textrevapostrophe (tipa)
 17086 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 17087 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 17088 % \textraiseglotstop (tipa)
 17089 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
 17090 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 17091 % \textlptr (tipa)
 17092 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2

17093 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 17094 % \textrprr (tipa)
 17095 \DeclareTextCommand{\textrprr}{PU}{\82\303}% U+02C3
 17096 % U+02C7 CARON; caron
 17097 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 17098 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
 17099 % \textprimstress (tipa)
 17100 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
 17101 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
 17102 % \textsecstress (tipa)
 17103 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
 17104 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
 17105 % \textlengthmark (tipa)
 17106 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
 17107 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
 17108 % \texthalflength (tipa)
 17109 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
 17110 % U+02D8 BREVE; breve
 17111 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 17112 % U+02D9 DOT ABOVE; dotaccent
 17113 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 17114 % U+02DA RING ABOVE; ring
 17115 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 17116 % U+02DB OGONEK; ogonek
 17117 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 17118 % U+02DC SMALL TILDE; ilde, *tilde
 17119 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 17120 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 17121 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 17122 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
 17123 % U+02F3 MODIFIER LETTER LOW RING
 17124 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
 17125 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 17126 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 17127 % U+02F7 MODIFIER LETTER LOW TILDE
 17128 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
 17129 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
 17130 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
 17131 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
 17132 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

51.2.8 Combining Diacritical Marks: U+0300 to U+036F

17133 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 17134 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 17135 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 17136 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 17137 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
 17138 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 17139 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

17140 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
 17141 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
 17142 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

51.2.9 Greek and Coptic: U+0370 to U+03FF

17143 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
 17144 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
 17145 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
 17146 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
 17147 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
 17148 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
 17149 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
 17150 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
 17151 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
 17152 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
 17153 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
 17154 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
 17155 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos
 17156 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
 17157 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
 17158 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
 17159 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
 17160 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
 17161 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;
 17162 % iotadieresis
 17163 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390
 17164 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
 17165 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
 17166 % U+0392 GREEK CAPITAL LETTER BETA; Beta
 17167 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
 17168 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)
 17169 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
 17170 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (LaTeX)
 17171 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
 17172 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
 17173 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
 17174 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
 17175 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
 17176 % U+0397 GREEK CAPITAL LETTER ETA; Eta
 17177 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
 17178 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
 17179 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
 17180 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
 17181 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
 17182 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
 17183 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
 17184 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)

```

17185 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
17186 % U+039C GREEK CAPITAL LETTER MU; Mu
17187 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
17188 % U+039D GREEK CAPITAL LETTER NU; Nu
17189 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
17190 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
17191 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
17192 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
17193 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
17194 % U+03A0 GREEK CAPITAL LETTER PI; Pi
17195 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
17196 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
17197 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
17198 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
17199 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
17200 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
17201 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
17202 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
17203 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
17204 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
17205 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
17206 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
17207 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
17208 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
17209 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
17210 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
17211 % \Omega (LaTeX)
17212 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
17213 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
17214 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
17215 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA
17216 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
    silondieresis
17217 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB
17218 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
17219 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%* U+03AC
17220 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
17221 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
17222 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
17223 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
17224 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
17225 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
17226 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
17227 % AND TONOS; upsilondieresis
17228 \DeclareTextCompositeCommand{\"}{PU}{\textupsilon}{\83\260}% U+03B0
17229 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
17230 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
17231 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
17232 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
17233 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)

```



```

17234 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
17235 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
17236 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
17237 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
17238 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
17239 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
17240 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
17241 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
17242 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
17243 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
17244 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
17245 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
17246 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
17247 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
17248 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
17249 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
17250 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
17251 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
17252 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
17253 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
17254 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
17255 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
17256 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
17257 % U+03BF GREEK SMALL LETTER OMICRON; omicron
17258 \DeclareTextCommand{\textomicron}{PU}{\83\277}%* U+03BF
17259 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
17260 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
17261 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
17262 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
17263 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
17264 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
17265 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
17266 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
17267 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
17268 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
17269 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
17270 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
17271 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
17272 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
17273 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
17274 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
17275 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
17276 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
17277 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
17278 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
17279 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
17280 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
17281 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
      silondieresis
17282 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB

```

```

17283 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
17284 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
17285 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
17286 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
17287 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD
17288 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
17289 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
17290 % U+03DA GREEK LETTER STIGMA; Stigmatagreek
17291 \DeclareTextCommand{\textStigmatagreek}{PU}{\83\332}% U+03DA
17292 % U+03DB GREEK SMALL LETTER STIGMA
17293 \DeclareTextCommand{\textstigmatagreek}{PU}{\83\333}% U+03DB
17294 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
17295 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
17296 % U+03DD GREEK SMALL LETTER DIGAMMA
17297 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
17298 %* \textdigammagreek -> \digamma (AmS)
17299 % U+03DE GREEK LETTER KOPPA; Koppagreek
17300 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
17301 % U+03DF GREEK SMALL LETTER KOPPA
17302 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
17303 % U+03E0 GREEK LETTER SAMPI; Sampigreek
17304 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
17305 % U+03E1 GREEK SMALL LETTER SAMPI
17306 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
17307 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
17308 % \backepsilon (AmS)
17309 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

```

51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

```

17310 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
17311 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
17312 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
17313 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
17314 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% U+0401
17315 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
17316 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
17317 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
17318 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
17319 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
17320 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
17321 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
17322 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
17323 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
17324 % Icyrillic, *afii10055
17325 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
17326 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
17327 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407

```

17328 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
17329 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
17330 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
17331 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
17332 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
17333 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
17334 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
17335 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
17336 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
17337 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
17338 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
17339 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
17340 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D
17341 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
17342 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
17343 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
17344 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
17345 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
17346 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
17347 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
17348 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
17349 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
17350 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
17351 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
17352 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
17353 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
17354 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
17355 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
17356 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
17357 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
17358 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
17359 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
17360 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
17361 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
17362 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
17363 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
17364 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
17365 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
17366 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
17367 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
17368 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
17369 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
17370 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
17371 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
17372 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
17373 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
17374 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
17375 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
17376 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
17377 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033

17378 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
17379 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
17380 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
17381 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
17382 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
17383 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
17384 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
17385 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
17386 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
17387 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
17388 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
17389 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
17390 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
17391 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
17392 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
17393 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
17394 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
17395 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
17396 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
17397 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
17398 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
17399 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
17400 % Hardsigncyrillic, *afii10044
17401 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
17402 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
17403 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
17404 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
17405 % Softsigncyrillic, *afii10046
17406 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
17407 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
17408 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
17409 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
17410 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
17411 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
17412 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
17413 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
17414 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
17415 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
17416 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
17417 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
17418 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
17419 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
17420 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
17421 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
17422 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
17423 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
17424 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
17425 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
17426 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
17427 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic

17428 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
17429 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
17430 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
17431 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
17432 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
17433 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
17434 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
17435 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
17436 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
17437 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B
17438 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
17439 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
17440 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
17441 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
17442 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
17443 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
17444 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
17445 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
17446 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
17447 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
17448 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
17449 \DeclareTextCommand{\cyr{s}}{PU}{\84\101}% U+0441
17450 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
17451 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
17452 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
17453 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
17454 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
17455 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
17456 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
17457 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
17458 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
17459 \DeclareTextCommand{\cyr{c}}{PU}{\84\106}% U+0446
17460 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
17461 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
17462 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
17463 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
17464 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
17465 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
17466 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
17467 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
17468 %* \cyrhrdsn -> \hardsign (tipa)
17469 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
17470 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
17471 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
17472 \DeclareTextCommand{\cyr{s}tsn}{PU}{\84\114}% U+044C
17473 %* \cyr{s}tsn -> \softsign (tipa)
17474 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
17475 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
17476 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic

17477 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
17478 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
17479 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
17480 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
17481 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450
17482 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
17483 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
17484 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
17485 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
17486 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
17487 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
17488 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
17489 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
17490 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
17491 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
17492 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
17493 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
17494 % *afii10103, icyrillic
17495 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
17496 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
17497 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
17498 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
17499 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
17500 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
17501 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
17502 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
17503 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
17504 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
17505 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
17506 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
17507 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
17508 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
17509 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
17510 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D
17511 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
17512 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
17513 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
17514 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
17515 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
17516 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
17517 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
17518 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
17519 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
17520 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
17521 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
17522 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
17523 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
17524 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
17525 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
17526 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic

17527 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
17528 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
17529 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
17530 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
17531 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
17532 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-
otifiedcyrillic
17533 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
17534 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
fiedcyrillic
17535 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
17536 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
17537 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
17538 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
17539 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
17540 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
17541 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
17542 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
cyrillic
17543 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
17544 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
17545 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
17546 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
17547 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
17548 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
17549 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
17550 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
17551 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
17552 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
17553 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
17554 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
17555 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
17556 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
17557 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
17558 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
17559 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
17560 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
17561 % GRAVE ACCENT; Izhitsadblgravecyrillic
17562 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
17563 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
17564 % GRAVE ACCENT; izhitsadblgravecyrillic
17565 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
17566 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
17567 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
17568 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
17569 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
17570 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
lic
17571 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A

17572 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 17573 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 17574 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlo-
 cyrillic
 17575 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 17576 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
 cyrillic
 17577 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 17578 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 17579 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 17580 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 17581 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 17582 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 17583 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 17584 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 17585 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 17586 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 17587 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-
 cyrilliccmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneu-
 matacyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-
 acyrilliccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 17588 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 17589 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 17590 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 17591 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 17592 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 17593 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 17594 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 17595 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 17596 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 17597 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 17598 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 17599 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 17600 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 17601 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 17602 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 17603 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 17604 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic

17605 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
17606 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
17607 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
17608 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
17609 % Ghemiddlehookcyrillic
17610 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
17611 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
17612 % ghemiddlehookcyrillic
17613 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
17614 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
17615 % Zhedescendercyrillic
17616 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
17617 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
17618 % zhedescendercyrillic
17619 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
17620 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
dercyrillic
17621 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
17622 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
17623 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
cyrillic
17624 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
17625 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
17626 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
dercyrillic
17627 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
17628 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-
dercyrillic
17629 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
17630 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
17631 % Kaverticallstrokecyrillic
17632 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
17633 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
17634 % kaverticallstrokecyrillic
17635 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
17636 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
17637 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
17638 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
17639 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
17640 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
17641 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
17642 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
17643 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
17644 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
dercyrillic
17645 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
17646 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
cyrillic
17647 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
17648 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic

17649 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
17650 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
17651 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
17652 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
17653 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
17654 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
17655 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
17656 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
17657 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
17658 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
17659 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
17660 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
17661 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
17662 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
17663 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
17664 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
17665 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
17666 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
17667 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
17668 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
17669 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD
17670 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
17671 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
17672 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
17673 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF
17674 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
17675 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
17676 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
17677 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1
17678 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic
17679 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
17680 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
17681 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
17682 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
17683 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
17684 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
17685 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
17686 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
17687 % Chedescendercyrillic

17688 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 17689 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 17690 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 17691 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
 17692 % Cheverticalstrokecyrillic
 17693 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 17694 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
 17695 % cheverticalstrokecyrillic
 17696 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 17697 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 17698 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 17699 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 17700 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 17701 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
 17702 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 17703 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 17704 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 17705 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 17706 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 17707 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 17708 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 17709 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 17710 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 17711 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 17712 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 17713 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 17714 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 17715 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 17716 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 17717 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 17718 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 17719 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 17720 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 17721 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 17722 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 17723 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 17724 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 17725 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 17726 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 17727 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 17728 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 17729 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
 17730 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 17731 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-

cyrillic

17732 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC

17733 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL

17734 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD

17735 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL

17736 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE

\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

17737 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic

17738 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0

17739 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic

17740 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1

17741 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic

17742 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2

17743 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic

17744 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3

17745 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic

17746 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4

17747 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic

17748 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5

17749 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevcyrillic

17750 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6

17751 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevcyrillic

17752 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7

17753 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic

17754 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8

17755 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic

17756 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9

17757 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;

17758 % Schwadieresiscyrillic

17759 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA

17760 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;

17761 % schwadieresiscyrillic

17762 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB

17763 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic

17764 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC

17765 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic

17766 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD

17767 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic

17768 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE

17769 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic

17770 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF

17771 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic

17772 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0

17773 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-
 lic
 17774 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 17775 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 17776 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
 17777 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 17778 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
 17779 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
 17780 \DeclareTextCompositeCommand{\"}{PU}{\CYRI}{\84\344}% U+04E4
 17781 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
 17782 \DeclareTextCompositeCommand{\"}{PU}{\cyri}{\84\345}% U+04E5
 17783 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
 lic
 17784 \DeclareTextCompositeCommand{\"}{PU}{\CYRO}{\84\346}% U+04E6
 17785 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 17786 \DeclareTextCompositeCommand{\"}{PU}{\cyro}{\84\347}% U+04E7
 17787 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarreddcyrillic
 17788 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 17789 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarreddcyrillic
 17790 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 17791 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;
 17792 % Obarreddieresiscyrillic
 17793 \DeclareTextCompositeCommand{\"}{PU}{\CYROTLD}{\84\352}% U+04EA
 17794 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;
 17795 % obarreddieresiscyrillic
 17796 \DeclareTextCompositeCommand{\"}{PU}{\cyrotld}{\84\353}% U+04EB
 17797 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 17798 \DeclareTextCompositeCommand{\"}{PU}{\CYREREV}{\84\354}% U+04EC
 17799 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 17800 \DeclareTextCompositeCommand{\"}{PU}{\cyreref}{\84\355}% U+04ED
 17801 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 17802 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE
 17803 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 17804 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 17805 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyril-
 lic
 17806 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U+04F0
 17807 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 17808 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% U+04F1
 17809 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
 garumlautcyrillic
 17810 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 17811 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
 garumlautcyrillic
 17812 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 17813 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
 siscyrillic
 17814 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
 17815 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-
 cyrillic

17816 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 17817 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 17818 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 17819 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 17820 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 17821 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 17822 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 17823 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 17824 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% U+04F9
 \84\372: U+04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND
 HOOK
 \84\373: U+04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND
 HOOK
 17825 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 17826 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 17827 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 17828 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

17829 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
 17830 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
 17831 % U+05D0 HEBREW LETTER ALEF
 17832 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
 17833 % U+05D1 HEBREW LETTER BET
 17834 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
 17835 % U+05D2 HEBREW LETTER GIMEL
 17836 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
 17837 % U+05D3 HEBREW LETTER DALET
 17838 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
 17839 % U+05D4 HEBREW LETTER HE
 17840 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
 17841 % U+05D5 HEBREW LETTER VAV
 17842 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
 17843 % U+05D6 HEBREW LETTER ZAYIN
 17844 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
 17845 % U+05D7 HEBREW LETTER HET
 17846 \DeclareTextCommand{\hebheth}{PU}{\85\327}% U+05D7
 17847 % U+05D8 HEBREW LETTER TET
 17848 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
 17849 % U+05D9 HEBREW LETTER YOD
 17850 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
 17851 % U+05DA HEBREW LETTER FINAL KAF

17852 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
 17853 % U+05DB HEBREW LETTER KAF
 17854 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB
 17855 % U+05DC HEBREW LETTER LAMED
 17856 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
 17857 % U+05DD HEBREW LETTER FINAL MEM
 17858 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
 17859 % U+05DE HEBREW LETTER MEM
 17860 \DeclareTextCommand{\hebmem}{PU}{\85\336}% U+05DE
 17861 % U+05DF HEBREW LETTER FINAL NUN
 17862 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
 17863 % U+05E0 HEBREW LETTER NUN
 17864 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
 17865 % U+05E1 HEBREW LETTER SAMEKH
 17866 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
 17867 % U+05E2 HEBREW LETTER AYIN
 17868 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
 17869 % U+05E3 HEBREW LETTER FINAL PE
 17870 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
 17871 % U+05E4 HEBREW LETTER PE
 17872 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
 17873 % U+05E5 HEBREW LETTER FINAL TSADI
 17874 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
 17875 % U+05E6 HEBREW LETTER TSADI
 17876 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
 17877 % U+05E7 HEBREW LETTER QOF
 17878 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
 17879 % U+05E8 HEBREW LETTER RESH
 17880 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
 17881 % U+05E9 HEBREW LETTER SHIN
 17882 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
 17883 %* \hebshin -> \hebsin (he8)
 17884 % U+05EA HEBREW LETTER TAV
 17885 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
 17886 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
 17887 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
 17888 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
 17889 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
 17890 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
 17891 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

51.2.12 Thai: U+0E00 to U+0E7F

17892 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 17893 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17894 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsca (tipa)
 17895 \DeclareTextCommand{\textsca}{PU}{\9035\000}% U+1D00
 17896 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)

17897 \DeclareTextCommand{\textscd}{PU}{\9035\005}%* U+1D05
17898 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)
17899 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07
17900 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)
17901 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A
17902 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textsck (tipx)
17903 \DeclareTextCommand{\textPUscck}{PU}{\9035\013}% U+1D0B
17904 %* \textPUscck -> \textscck (tipx)
17905 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)
17906 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D
17907 %* \textPUscm -> \textscm (tipx)
17908 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)
17909 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18
17910 %* \textPUscp -> \textscp (tipx)
17911 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
17912 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
17913 %* \textPUrevscr -> \textrevscr (tipx)
17914 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)
17915 \DeclareTextCommand{\textscu}{PU}{\9035\034}%* U+1D1C
17916 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
17917 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%* U+1D62
17918 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
17919 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%* U+1D63
17920 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
17921 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%* U+1D64
17922 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
17923 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%* U+1D65
17924 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
17925 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
17926 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
17927 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
17928 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
17929 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
17930 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
17931 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
17932 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
17933 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
17934 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
17935 % \barsci (wsuipa)
17936 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
17937 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
17938 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
17939 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
17940 % \barscu (wsuipa)
17941 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17942 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
trhooka (tipx)
17943 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F

17944 %* \textPURhooka -> \textrhooka (tipx)
 17945 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
 taild (tipa)
 17946 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
 17947 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
 trhooke (tipx)
 17948 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92
 17949 %* \textPURhooke -> \textrhooke (tipx)
 17950 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
 17951 % \textrhookepsilon (tipx)
 17952 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93
 17953 %* \textPURhookepsilon -> \textrhookepsilon (tipx)
 17954 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
 17955 % \textrhookopeno (tipx)
 17956 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97
 17957 %* \textPURhookopeno -> \textrhookopeno (tipx)

51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17958 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
 17959 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
 17960 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
 17961 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
 17962 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 17963 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 17964 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 17965 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 17966 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
 17967 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
 17968 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
 17969 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
 17970 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 17971 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 17972 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 17973 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 17974 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 17975 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 17976 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 17977 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 17978 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
 17979 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
 17980 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
 17981 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
 17982 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 17983 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 17984 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 17985 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 17986 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 17987 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 17988 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 17989 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11

17990 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
 cumflexbelow
 17991 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
 17992 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
 cumflexbelow
 17993 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
 17994 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
 17995 % Emacrongrave
 17996 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
 17997 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
 17998 % emacrongrave
 17999 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
 18000 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
 18001 % Emacronacute
 18002 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
 18003 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
 18004 % emacronacute
 18005 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
 18006 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
 cumflexbelow
 18007 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
 18008 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
 cumflexbelow
 18009 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
 18010 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
 18011 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
 18012 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
 18013 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
 18014 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 18015 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
 18016 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 18017 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
 18018 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 18019 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 18020 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 18021 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 18022 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 18023 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
 18024 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 18025 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
 18026 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
 18027 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24
 18028 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
 18029 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25
 18030 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 18031 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
 18032 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 18033 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
 18034 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 18035 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28

18036 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
18037 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
18038 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow
18039 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A
18040 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow
18041 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B
18042 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
18043 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C
18044 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow
18045 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D
18046 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
18047 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
18048 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
18049 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
18050 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
18051 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32
18052 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
18053 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33
18054 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
18055 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
18056 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
18057 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
18058 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
18059 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36
18060 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
18061 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37
18062 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
18063 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
18064 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
18065 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
18066 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
18067 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C
18068 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
18069 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D
18070 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
18071 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
18072 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
18073 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
18074 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
18075 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
18076 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
18077 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
18078 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
18079 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
18080 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
18081 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
18082 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
18083 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44

18084 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
18085 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
18086 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
18087 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
18088 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
18089 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
18090 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
18091 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
18092 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
18093 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
18094 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
18095 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A
18096 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-
cumflexbelow
18097 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
18098 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
18099 % Omacrongrave
18100 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
18101 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
18102 % omacrongrave
18103 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
18104 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
18105 % Omacronacute
18106 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
18107 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
18108 % omacronacute
18109 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
18110 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
18111 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
18112 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
18113 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
18114 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
18115 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
18116 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
18117 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
18118 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
18119 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
18120 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
18121 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
18122 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
18123 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
18124 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow
18125 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
18126 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
18127 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
18128 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
18129 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
18130 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
18131 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60

18132 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
18133 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
18134 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
18135 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
18136 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
18137 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
18138 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
18139 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
18140 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
18141 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
18142 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow
18143 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
18144 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow
18145 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
18146 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
18147 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
18148 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
18149 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
18150 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-
cumflexbelow
18151 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
18152 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-
cumflexbelow
18153 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
18154 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
sisbelow
18155 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
18156 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-
sisbelow
18157 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
18158 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
18159 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
18160 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
18161 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
18162 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-
cumflexbelow
18163 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
18164 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-
cumflexbelow
18165 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
18166 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
18167 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
18168 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
18169 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
18170 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
18171 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
18172 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow
18173 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
18174 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
18175 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80

18176 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
18177 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\201}% U+1E81
18178 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
18179 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
18180 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
18181 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
18182 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
18183 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
18184 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
18185 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
18186 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
18187 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
18188 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
18189 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
18190 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
18191 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
18192 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
18193 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
18194 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
18195 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
18196 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
18197 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
18198 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
18199 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
18200 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
18201 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
18202 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
18203 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
18204 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
18205 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
18206 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
18207 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
18208 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
18209 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
18210 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
18211 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
18212 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
18213 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
18214 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
18215 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
18216 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
18217 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
18218 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
18219 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
18220 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
18221 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
18222 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
18223 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
18224 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
18225 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99

18226 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
18227 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
18228 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow
18229 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
18230 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow
18231 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
18232 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow
18233 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
18234 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow
18235 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
18236 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
18237 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
18238 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
18239 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
18240 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow
18241 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
18242 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow
18243 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
18244 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
18245 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
18246 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow
18247 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
18248 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow
18249 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
18250 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow
18251 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
18252 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
18253 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
18254 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
18255 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
18256 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow
18257 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
18258 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow
18259 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
18260 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
18261 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
18262 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
18263 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

51.2.16 General Punctuation: U+2000 to U+206F

18264 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
18265 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
18266 % U+2013 EN DASH; endash
18267 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
18268 % U+2014 EM DASH; emdash
18269 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
18270 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
18271 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
18272 %* \textbardbl -> \textdoublevertline (tipa)

18273 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 18274 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 18275 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 18276 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 18277 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 18278 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 18279 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 18280 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 18281 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 18282 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 18283 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 18284 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 18285 % U+2020 DAGGER; dagger
 18286 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
 18287 %* \textdagger -> \dag (LaTeX)
 18288 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 18289 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 18290 %* \textdaggerdbl -> \ddagger (LaTeX)
 18291 %* \textdaggerdbl -> \ddag (LaTeX)
 18292 % U+2022 BULLET; bullet
 18293 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
 18294 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
 18295 \DeclareTextCommand{\textthdotfor}{PU}{\9040\045}%* U+2025
 18296 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 18297 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 18298 %* \textellipsis -> \mathellipsis
 18299 % U+2030 PER MILLE SIGN; perthousand
 18300 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 18301 % U+2031 PER TEN THOUSAND SIGN
 18302 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 18303 % U+2032 PRIME; minute; \prime (MnSymbol)
 18304 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
 18305 % U+2033 DOUBLE PRIME; \second (mathabx)
 18306 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
 18307 % U+2034 TRIPLE PRIME; \third (mathabx)
 18308 \DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034
 18309 % U+2035 REVERSED PRIME; \backprime (AmS)
 18310 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
 18311 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 inglleft
 18312 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 18313 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 inglright
 18314 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 18315 % U+203B REFERENCE MARK; referencemark
 18316 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 18317 % U+203D INTERROBANG
 18318 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 18319 % U+2044 FRACTION SLASH; fraction
 18320 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044

18321 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 18322 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 18323 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 18324 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 18325 % U+2052 COMMERCIAL MINUS SIGN
 18326 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
 18327 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
 18328 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
 18329 % U+2057 QUADRUPLER PRIME; \fourth (mathabx)
 18330 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 18331 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 18332 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

51.2.17 Superscripts and Subscripts: U+2070 to U+209F

18333 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 18334 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 18335 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 18336 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 18337 % U+2074 SUPERSCRIPT FOUR; foursuperior
 18338 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 18339 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 18340 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 18341 % U+2076 SUPERSCRIPT SIX; sixsuperior
 18342 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 18343 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 18344 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 18345 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 18346 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
 18347 % U+2079 SUPERSCRIPT NINE; ninesuperior
 18348 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
 18349 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 18350 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
 18351 % U+207B SUPERSCRIPT MINUS
 18352 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
 18353 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 18354 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%* U+207C
 18355 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 18356 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
 18357 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 18358 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
 18359 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 18360 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%* U+207F
 18361 % U+2080 SUBSCRIPT ZERO; zeroinferior
 18362 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
 18363 % U+2081 SUBSCRIPT ONE; oneinferior
 18364 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
 18365 % U+2082 SUBSCRIPT TWO; twoinferior
 18366 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
 18367 % U+2083 SUBSCRIPT THREE; threeminferior
 18368 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%* U+2083

18369 % U+2084 SUBSCRIPT FOUR; fourinferior
18370 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
18371 % U+2085 SUBSCRIPT FIVE; fiveinferior
18372 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
18373 % U+2086 SUBSCRIPT SIX; sixinferior
18374 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
18375 % U+2087 SUBSCRIPT SEVEN; seveninferior
18376 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
18377 % U+2088 SUBSCRIPT EIGHT; eightinferior
18378 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
18379 % U+2089 SUBSCRIPT NINE; nineinferior
18380 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
18381 % U+208A SUBSCRIPT PLUS SIGN
18382 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
18383 % U+208B SUBSCRIPT MINUS
18384 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
18385 % U+208C SUBSCRIPT EQUALS SIGN
18386 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
18387 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
18388 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
18389 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
18390 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
18391 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
18392 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
18393 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
18394 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
18395 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
18396 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
18397 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
18398 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
18399 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA
18400 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
18401 % U+2095 LATIN SUBSCRIPT SMALL LETTER H
18402 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%* U+2095
18403 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
18404 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
18405 % U+2097 LATIN SUBSCRIPT SMALL LETTER L
18406 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
18407 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
18408 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
18409 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
18410 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
18411 % U+209A LATIN SUBSCRIPT SMALL LETTER P
18412 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
18413 % U+209B LATIN SUBSCRIPT SMALL LETTER S
18414 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
18415 % U+209C LATIN SUBSCRIPT SMALL LETTER T
18416 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

51.2.18 Currency Symbols: U+20A0 to U+20CF

```

18417 % U+20A1 COLON SIGN; *colonmonetary, colonsign
18418 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
18419 % U+20A4 LIRA SIGN; afii08941, *lira
18420 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
18421 % U+20A6 NAIRA SIGN
18422 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
18423 % U+20A7 PESETA SIGN; peseta
18424 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
18425 % U+20A9 WON SIGN; won
18426 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
18427 % U+20AB DONG SIGN; dong
18428 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
18429 % U+20AC EURO SIGN; *Euro, euro
18430 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
18431 %* \texteuro -> \EurDig (marvosym)
18432 %* \texteuro -> \EURdig (marvosym)
18433 %* \texteuro -> \EurHv (marvosym)
18434 %* \texteuro -> \EURhv (marvosym)
18435 %* \texteuro -> \EurCr (marvosym)
18436 %* \texteuro -> \EURcr (marvosym)
18437 %* \texteuro -> \EurTm (marvosym)
18438 %* \texteuro -> \EURtm (marvosym)
18439 %* \texteuro -> \Eur (marvosym)
18440 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
18441 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
18442 %* \textDeleatur -> \Denarius (marvosym)
18443 % U+20B1 PESO SIGN
18444 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
18445 % U+20B2 GUARANI SIGN
18446 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

```

51.2.19 Letterlike Symbols: U+2100 to U+214F

```

18447 % U+2103 DEGREE CELSIUS; centigrade
18448 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
18449 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
18450 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
18451 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
18452 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
18453 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
18454 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
18455 % U+2116 NUMERO SIGN; *afii61352, numero
18456 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
18457 % U+2117 SOUND RECORDING COPYRIGHT
18458 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
18459 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
18460 % weierstrass; \wp (LaTeX)
18461 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118

```

18462 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
 18463 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
 18464 % U+211E PRESCRIPTION TAKE; prescription
 18465 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 18466 % U+2120 SERVICE MARK
 18467 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 18468 % U+2122 TRADE MARK SIGN; trademark
 18469 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 18470 % U+2126 OHM SIGN; Ohm, Omega
 18471 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 18472 % U+2127 INVERTED OHM SIGN
 18473 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
 18474 %* \textmho -> \agemO (wasysym)
 18475 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
 18476 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
 18477 % U+212B ANGSTROM SIGN; angstrom
 18478 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 18479 % U+212E ESTIMATED SYMBOL; estimated
 18480 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 18481 %* \textestimated -> \EstimatedSign (marvosym)
 18482 %* \textestimated -> \Ecommerce (marvosym)
 18483 % U+2132 TURNED CAPITAL F; \Finv (AmS)
 18484 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
 18485 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
 18486 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
 18487 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
 18488 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
 18489 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
 18490 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
 18491 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
 18492 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
 18493 % U+213B FACSIMILE SIGN; \fax (marvosym)
 18494 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
 18495 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
 18496 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
 18497 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
 18498 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
 18499 %* \textinvamp -> \bindnasrepma (stmaryrd)
 18500 %* \textinvamp -> \parr (cml)

51.2.20 Number Forms: U+2150 to U+218F

18501 % U+2150 VULGAR FRACTION ONE SEVENTH
 18502 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
 18503 % U+2151 VULGAR FRACTION ONE NINTH
 18504 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
 18505 % U+2152 VULGAR FRACTION ONE TENTH
 18506 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
 18507 % U+2153 VULGAR FRACTION ONE THIRD; onethird
 18508 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
 18509 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds

18510 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
 18511 % U+2155 VULGAR FRACTION ONE FIFTH
 18512 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
 18513 % U+2156 VULGAR FRACTION TWO FIFTHS
 18514 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
 18515 % U+2157 VULGAR FRACTION THREE FIFTHS
 18516 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
 18517 % U+2158 VULGAR FRACTION FOUR FIFTHS
 18518 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
 18519 % U+2159 VULGAR FRACTION ONE SIXTH
 18520 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
 18521 % U+215A VULGAR FRACTION FIVE SIXTHS
 18522 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
 18523 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
 18524 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
 18525 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
 18526 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
 18527 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
 18528 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
 18529 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveeneighths
 18530 \DeclareTextCommand{\textseveeneighths}{PU}{\9041\136}% U+215E
 18531 % U+2184 LATIN SMALL LETTER REVERSED C
 18532 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
 18533 % U+2189 VULGAR FRACTION ZERO THIRDS
 18534 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

51.2.21 Arrows: U+2190 to U+21FF

18535 % U+2190 LEFTWARDS ARROW; arrowleft
 18536 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
 18537 % U+2191 UPWARDS ARROW; arrowup
 18538 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
 18539 % U+2192 RIGHTWARDS ARROW; arrowright
 18540 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
 18541 %* \textrightarrow -> \MVRightArrow (marvosym)
 18542 %* \textrightarrow -> \MVRightarrow (marvosym)
 18543 % U+2193 DOWNWARDS ARROW; arrowdown
 18544 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
 18545 %* \textdownarrow -> \MVAarrowDown (marvosym)
 18546 %* \textdownarrow -> \Force (marvosym)
 18547 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)
 18548 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%* U+2194
 18549 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
 18550 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
 18551 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
 18552 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
 18553 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
 18554 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
 18555 %* \textnearrow -> \textglobe (tipa)
 18556 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
 18557 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198

```

18558 %* \textsearrow -> \textglofball (tipa)
18559 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
18560 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
18561 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)
18562 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
18563 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)
18564 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
18565 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
18566 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
18567 % \ntwoheadleftarrow (txfonts/pxfonts)
18568 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
18569 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
18570 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
18571 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
18572 % \twoheadrightarrow (AmS)
18573 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
18574 % \ntwoheadrightarrow (txfonts/pxfonts)
18575 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18576 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
18577 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18578 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18579 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18580 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18581 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18582 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18583 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18584 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18585 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18586 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18587 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18588 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18589 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18590 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18591 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18592 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
18593 \DeclareTextCommand{\textnleftrightharrow}{PU}{\9041\256}%* U+21AE
18594 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18595 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18596 %* \textlightning -> \Lightning (marvosym)
18597 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18598 % \dlsh (mathabx)
18599 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
18600 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18601 % \curvearrowleft (AmS)
18602 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18603 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18604 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18605 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;

```

```

18606 % \leftharpoonup (LaTeX)
18607 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18608 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18609 % \leftharpoondown (LaTeX)
18610 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18611 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18612 % \upharpoonright (AmS)
18613 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18614 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18615 % \upharpoonleft (AmS)
18616 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18617 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
18618 % \rightharpoonup (LaTeX)
18619 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18620 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18621 % \rightharpoondown (LaTeX)
18622 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18623 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18624 % \downharpoonright (AmS)
18625 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18626 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18627 % \downharpoonleft (AmS)
18628 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18629 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18630 % \arrowrightoverleft; \rightleftarrows (MnSymbol)
18631 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18632 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
18633 % \updownarrows (MnSymbol)
18634 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
18635 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
18636 % \leftrightarrows (AmS)
18637 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
18638 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18639 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18640 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18641 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
18642 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18643 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
18644 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
18645 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
18646 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18647 % \leftrightharpoons (AmS);
18648 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18649 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18650 % \rightleftharpoons (LaTeX, AmS)
18651 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18652 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-

```

```

        blstroke;
18653 % \nLeftarrow (AmS)
18654 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18655 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
18656 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
18657 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;
18658 % \rightarrow (AmS)
18659 \DeclareTextCommand{\textrightarrow}{PU}{\9041\317}%* U+21CF
18660 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18661 % \Leftarrow (LaTeX)
18662 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18663 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18664 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18665 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18666 % \Rightarrow (LaTeX)
18667 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18668 %* \textRightarrow -> \Conclusion (marvosym)
18669 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (LaTeX)
18670 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18671 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18672 % \Leftrightarrow (LaTeX)
18673 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18674 %* \textLeftrightarrow -> \Equivalence (marvosym)
18675 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18676 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18677 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18678 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18679 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18680 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18681 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18682 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18683 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
18684 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
18685 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18686 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
18687 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18688 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18689 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18690 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18691 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18692 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18693 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18694 % \dashleftarrow (AmS)
18695 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18696 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18697 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (MnSymbol)

```



```

18698 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18699 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightar-
row (AmS)
18700 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18701 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18702 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
row (MnSymbol)
18703 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18704 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18705 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18706 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18707 % \downuparrows (MnSymbol)
18708 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
18709 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18710 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18711 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18712 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
18713 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtrian-
gle (stmaryrd)
18714 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

```

51.2.22 Mathematical Operators: U+2200 to U+22FF

```

18715 % U+2200 FOR ALL; forall; \forall (LaTeX)
18716 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18717 % U+2201 COMPLEMENT; \complement (AmS)
18718 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18719 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18720 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18721 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18722 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18723 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18724 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18725 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18726 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18727 %* \textemptyset -> \varnothing (AmS)
18728 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18729 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18730 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18731 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18732 % U+2208 ELEMENT OF; element; \in (LaTeX)
18733 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18734 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18735 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18736 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18737 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18738 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18739 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18740 %* \textni -> \owns (mathabx)
18741 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18742 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C

```

```

18743 %* \textnotowner -> \notni (txfonts/pxfonts)
18744 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18745 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18746 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18747 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18748 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18749 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18750 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18751 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18752 % U+2212 MINUS SIGN; minus
18753 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18754 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18755 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18756 % U+2214 DOT PLUS; \dotplus (AmS)
18757 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18758 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18759 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18760 % \DividesNot (marvosym)
18761 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18762 % U+2216 SET MINUS; \setminus (LaTeX)
18763 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18764 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18765 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18766 % U+2218 RING OPERATOR; \circ (LaTeX)
18767 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18768 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18769 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18770 % U+221A SQUARE ROOT; radical
18771 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18772 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18773 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18774 %* \textpropto -> \varprop (wasysym)
18775 % U+221E INFINITY; infinity; \infty (LaTeX)
18776 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18777 % U+2220 ANGLE; angle; \angle (LaTeX)
18778 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18779 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18780 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18781 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18782 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18783 %* \textsphericalangle -> \varangle (wasysym)
18784 %* \textsphericalangle -> \Anglesign (marvosym)
18785 %* \textsphericalangle -> \AngleSign (marvosym)
18786 % U+2223 DIVIDES; divides; \mid (LaTeX)
18787 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18788 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18789 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18790 %* \textnmid -> \notdivides (mathabx)
18791 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18792 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225

```

```

18793 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18794 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18795 %* \textnparallel -> nUpdownline (MnSymbol)
18796 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18797 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18798 % \owedge (stmaryrd)
18799 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18800 %* \textowedge -> \varowedge (stmaryrd)
18801 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18802 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18803 % \ovee (stmaryrd)
18804 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18805 %* \textovee -> \varovee (stmaryrd)
18806 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18807 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18808 % U+222A UNION; union; \cup (LaTeX)
18809 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18810 % U+222B INTEGRAL; integral; \int (LaTeX)
18811 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18812 %* \textint -> \varint (wasysym)
18813 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18814 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18815 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18816 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18817 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18818 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18819 %* \textoint -> \varoint (wasysym)
18820 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18821 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18822 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18823 % \ointclockwise (txfonts/pxfonts)
18824 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18825 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18826 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18827 % U+2234 THEREFORE; therefore; \therefore (AmS)
18828 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18829 %* \texttherefore -> uptherefore (MnSymbol)
18830 % U+2235 BECAUSE; because; \because (AmS)
18831 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18832 %* \textbecause -> \downtherefore (MnSymbol)
18833 % U+2236 RATIO; \vdotdot (MnSymbol)
18834 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18835 % U+2237 PROPORTION; \squaredots (MnSymbol)
18836 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18837 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18838 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18839 %* \textdotminus -> \textdotdiv (mathabx)
18840 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18841 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239

```

```

18842 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18843 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18844 %* \textsim -> \AC (wasysym)
18845 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18846 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18847 % \nbacksim (txfonts/pxfonts)
18848 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18849 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18850 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18851 %* \textwr -> \wreath (MnSymbol)
18852 % U+2241 NOT TILDE; \nsim (AmS)
18853 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18854 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18855 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18856 % \neqsim (MnSymbol)
18857 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18858 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)
18859 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18860 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18861 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18862 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18863 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18864 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18865 % \ncong (AmS)
18866 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18867 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18868 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18869 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18870 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18871 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18872 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18873 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18874 % \napproxeq (txfonts/pxfonts)
18875 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18876 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18877 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18878 %* \texttriplesim -> \VHF (wasysym)
18879 % \ntriplesim (MnSymbol)
18880 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18881 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18882 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18883 % \nbackcong (MnSymbol)
18884 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18885 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18886 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18887 % \nasymp (txfonts/pxfonts)
18888 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
18889 %* \textnasymp -> \notasympt (mathabx)
18890 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)

```

```

18891 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18892 % \nBumpeq (txfonts/pxfonts)
18893 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18894 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18895 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18896 % \nbumpeq (txfonts/pxfonts)
18897 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18898 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18899 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18900 % \ndoteq (MnSymbol)
18901 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18902 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18903 % \doteqdot (AmS)
18904 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18905 %* \textdoteqdot -> \Doteq (MnSymbol)
18906 % \nDoteq (MnSymbol)
18907 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18908 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18909 % \fallingdotseq (AmS)
18910 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18911 % \nfallingdotseq (MnSymbol)
18912 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18913 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-
imatelyequal;
18914 % \risingdotseq (AmS)
18915 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18916 % \nrisingdotseq (MnSymbol)
18917 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18918 % U+2254 COLON EQUALS; \colonequals (colonequals)
18919 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18920 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18921 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18922 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18923 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18924 % \neqcirc (MnSymbol)
18925 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18926 % U+2257 RING EQUAL TO; \circeq (AmS)
18927 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18928 % \ncirceq (MnSymbol)
18929 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18930 % U+2259 ESTIMATES; \hateq (MnSymbol)
18931 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18932 %* \texthateq -> \corresponds (mathabx)
18933 %* \texthateq -> \Corresponds (marvosym)
18934 % \nhateq (MnSymbol)
18935 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18936 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18937 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18938 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)

```

```

18939 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18940 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18941 %* \textneq -> \nequal (MnSymbol)
18942 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18943 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18944 %* \textequiv -> \Congruent (marvosym)
18945 % U+2262 NOT IDENTICAL TO; notidentical; \notequiv (txfonts/pxfonts)
18946 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18947 %* \textnequiv -> \NotCongruent (marvosym)
18948 %* \textnequiv -> \notequiv (mathabx)
18949 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18950 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18951 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18952 %* \textleq -> \LessOrEqual (marvosym)
18953 % U+2265 GREATER-THAN OR EQUAL TO; greaterqual;
18954 % \ge (LaTeX), \geq (LaTeX)
18955 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18956 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18957 %* \textgeq -> \LargerOrEqual (marvosym)
18958 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18959 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18960 % \nleqq (txfonts/pxfonts)
18961 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18962 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18963 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18964 % \ngeqq (txfonts/pxfonts)
18965 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18966 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18967 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18968 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18969 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18970 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18971 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18972 % \nll (txfonts/pxfonts)
18973 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18974 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18975 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18976 % \ngg (txfonts/pxfonts)
18977 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18978 % U+226C BETWEEN; \between (AmS)
18979 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18980 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18981 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18982 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18983 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18984 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18985 % \nleq (AmS)
18986 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18987 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)

```

```

18988 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18989 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18990 \DeclareTextCommand{\textlessssim}{PU}{\9042\162}%* U+2272
18991 %* \textlessssim -> \apprle (wasysym)
18992 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtr-
sim (AmS)
18993 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18994 %* \textgtrsim -> \apprge (wasysym)
18995 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-
fonts/pxfonts)
18996 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18997 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-
fonts/pxfonts)
18998 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18999 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
19000 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
19001 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
19002 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
19003 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
fonts/pxfonts)
19004 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
19005 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
fonts/pxfonts)
19006 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
19007 % U+227A PRECEDES; precedes; \prec (LaTeX)
19008 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
19009 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
19010 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
19011 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
19012 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
19013 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
19014 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
19015 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
19016 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
19017 % \nprecsim (txfonts/pxfonts)
19018 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
19019 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
19020 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
19021 % \nsuccsim (txfonts/pxfonts)
19022 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
19023 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
19024 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
19025 % U+2281 DOES NOT SUCCEED; notsuccceeds; \nsucc (AmS)
19026 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
19027 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
19028 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
19029 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
19030 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
19031 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
19032 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284

```

```

19033 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
19034 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
19035 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subsetq (LaTeX)
19036 \DeclareTextCommand{\textsubsetq}{PU}{\9042\206}%* U+2286
19037 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supsetq (LaTeX)
19038 \DeclareTextCommand{\textsupsetq}{PU}{\9042\207}%* U+2287
19039 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubsetq (AmS)
19040 \DeclareTextCommand{\textnsubsetq}{PU}{\9042\210}%* U+2288
19041 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupsetq (AmS)
19042 \DeclareTextCommand{\textnsupsetq}{PU}{\9042\211}%* U+2289
19043 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
      neq (AmS)
19044 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
19045 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
      neq (AmS)
19046 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
19047 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
19048 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
19049 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
19050 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
19051 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
19052 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
19053 % \nsqsubset (txfonts/pxfonts)
19054 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
19055 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
19056 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
19057 % \nsqsupset (txfonts/pxfonts)
19058 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
19059 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubsetq (LaTeX)
19060 \DeclareTextCommand{\textsqsubsetq}{PU}{\9042\221}%* U+2291
19061 % \nsqsubsetq (txfonts/pxfonts)
19062 \DeclareTextCommand{\textnsqsubsetq}{PU}{\9042\221\83\070}%* U+2291 U+0338
19063 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupsetq (LaTeX)
19064 \DeclareTextCommand{\textsqsupsetq}{PU}{\9042\222}%* U+2292
19065 % \nsqsupsetq (txfonts/pxfonts)
19066 \DeclareTextCommand{\textnsqsupsetq}{PU}{\9042\222\83\070}%* U+2292 U+0338
19067 % U+2293 SQUARE CAP; \sqcap (LaTeX)
19068 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
19069 % U+2294 SQUARE CUP; \sqcup (LaTeX)
19070 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
19071 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
19072 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
19073 %* \textoplus -> \varoplus (stmaryrd)
19074 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
19075 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
19076 %* \textominus -> \varominus (stmaryrd)
19077 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
19078 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
19079 %* \textotimes -> \varotimes (stmaryrd)
19080 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)

```



```

19081 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
19082 %* \textoslash -> \varoslash (stmaryrd)
19083 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
19084 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
19085 %* \textodot -> \varodot (stmaryrd)
19086 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
19087 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
19088 %* \textcircledcirc -> \ocirc (mathabx)
19089 %* \textcircledcirc -> \varocircle (stmaryrd)
19090 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
19091 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
19092 %* \textcircledast -> \varoast (stmaryrd)
19093 %* \textcircledast -> \oasterisk (mathabx)
19094 % U+229D CIRCLED DASH; \circleddash (AmS)
19095 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
19096 % U+229E SQUARED PLUS; \boxplus (AmS)
19097 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
19098 % U+229F SQUARED MINUS; \boxminus (AmS)
19099 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
19100 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
19101 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
19102 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
19103 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
19104 % U+22A2 RIGHT TACK; \vdash (LaTeX)
19105 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
19106 %* \textvdash -> \rightvdash (MnSymbol)
19107 % U+22A3 LEFT TACK; \lhd; \dashv (LaTeX)
19108 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
19109 %* \textdashv -> \leftvdash (MnSymbol)
19110 % \ndashv (mathabx)
19111 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
19112 %* \textndashv -> \nleftvdash (MnSymbol)
19113 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
19114 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
19115 %* \textttop -> \downvdash (MnSymbol)
19116 % \ndownvdash (MnSymbol)
19117 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
19118 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
19119 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
19120 %* \textbot -> \upvdash (MnSymbol)
19121 % \nupvdash (MnSymbol)
19122 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
19123 %* \textnupvdash -> \nperp (MnSymbol)
19124 % U+22A8 TRUE; \vDash (AmS)
19125 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
19126 %* \textvDash -> \models (LaTeX)
19127 %* \textvDash -> \rightmodels (MnSymbol)
19128 % U+22A9 FORCES; \Vdash (AmS)
19129 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
19130 %* \textVdash -> \rightVdash (MnSymbol)

```

```

19131 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
19132 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
19133 % \nVdash (mathabx)
19134 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
19135 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
19136 % \VDash (mathabx)
19137 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
19138 %* \textVDash -> \rightModels (MnSymbol)
19139 % U+22AC DOES NOT PROVE; \nvDash (AmS)
19140 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
19141 %* \textnvDash -> \nrightvdash (MnSymbol)
19142 % U+22AD NOT TRUE; \nvDash (AmS)
19143 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
19144 %* \textnvDash -> \nrightmodels (MnSymbol)
19145 %* \textnvDash -> \nmodels (MnSymbol)
19146 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
19147 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
19148 %* \textnVdash -> \nrightVdash (MnSymbol)
19149 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
19150 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
19151 %* \textnVDash -> \nrightModels (MnSymbol)
19152 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
19153 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
19154 %* \textlhd -> \lessclosed (MnSymbol)
19155 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
19156 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
19157 %* \textrhd -> \gtrclosed (MnSymbol)
19158 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
19159 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
19160 %* \textunlhd -> \leqclosed (MnSymbol)
19161 %* \textunlhd -> \trianglelefteq (MnSymbol)
19162 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
19163 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
19164 %* \textunrhd -> \geqclosed (MnSymbol)
19165 %* \textunrhd -> \trianglerighteq (MnSymbol)
19166 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
19167 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
19168 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
19169 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
19170 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
19171 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
19172 % U+22BB XOR; \veebar (AmS)
19173 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
19174 % U+22BC NAND; \barwedge (mathabx)
19175 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
19176 % U+22C6 STAR OPERATOR; \star (LaTeX)
19177 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
19178 % U+22C7 DIVISION TIMES; \divideontimes (AmS)

```

```

19179 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
19180 % U+22C8 BOWTIE; \bowtie (LaTeX)
19181 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
19182 %* \textbowtie -> \Bowtie (wasysym)
19183 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
19184 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
19185 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
19186 % \rtimes (AmS)
19187 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
19188 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
19189 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
19190 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
19191 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
19192 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
19193 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
19194 % \nbacksimeq (txfonts/pxfonts)
19195 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
19196 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
19197 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
19198 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
19199 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
19200 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
19201 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
19202 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
19203 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
19204 % \nSubset (txfonts/pxfonts)
19205 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
19206 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
19207 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
19208 % \nSupset (txfonts/pxfonts)
19209 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
19210 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
19211 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
19212 %* \textCap -> \doublecap (mathabx)
19213 % U+22D3 DOUBLE UNION; \Cup (AmS)
19214 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
19215 %* \textCup -> \doublecup (mathabx)
19216 % U+22D4 PITCHFORK; \pitchfork (mathabx)
19217 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
19218 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
19219 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
19220 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
19221 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
19222 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
19223 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
19224 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
19225 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
19226 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lesseqqualorgreater;
19227 % \lesseqgtr (AmS)
19228 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA

```

19229 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
 19230 % \gtreqless (AmS)
 19231 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
 19232 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
 19233 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
 19234 % \ncurlyeqprec (mathabx)
 19235 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
 19236 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
 19237 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
 19238 % \ncurlyeqsucc (mathabx)
 19239 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
 19240 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
 19241 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
 19242 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
 19243 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
 19244 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
 fonts/pxfonts)
 19245 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
 19246 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
 fonts/pxfonts)
 19247 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
 19248 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
 19249 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
 19250 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
 19251 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
 abx)
 19252 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
 19253 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
 19254 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
 19255 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
 19256 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
 19257 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
 19258 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
 19259 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
 19260 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
 19261 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
 19262 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
 19263 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
 19264 %* \textntriangleleft -> \nlessclosed (MnSymbol)
 19265 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)
 19266 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
 19267 %* \textntriangleright -> \ngtrclosed (MnSymbol)
 19268 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
 19269 % \ntrianglelefteq (AmS)
 19270 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
 19271 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
 19272 % \ntrianglerighteq (AmS)
 19273 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
 19274 %* \textntrianglerighteq -> textngeqclosed

19275 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
19276 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
19277 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
19278 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
19279 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
19280 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
19281 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
19282 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
19283 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
19284 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

51.2.23 Miscellaneous Technical: U+2300 to U+23FF

19285 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
19286 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
19287 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
19288 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
19289 % U+2311 SQUARE LOZENGE; \asylozenge (wasysym)
19290 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
19291 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
19292 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
19293 % U+231A WATCH; \clock (wasysym)
19294 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
19295 %* \textclock -> \Clocklogo (marvosym)
19296 %* \textclock -> \ClockLogo (marvosym)
19297 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
19298 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
19299 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
19300 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
19301 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
19302 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
19303 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
19304 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
19305 % U+2322 FROWN; \frown (LaTeX)
19306 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
19307 % U+2323 SMILE; \smile (LaTeX)
19308 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
19309 % U+2328 KEYBOARD; \Keyboard (marvosym)
19310 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
19311 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
19312 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
19313 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
19314 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
19315 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
19316 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
19317 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
19318 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
19319 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STYLE; \baro (stmaryrd)
19320 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%* U+233D
19321 %* \textstmaryrdbaro -> \baro (stmaryrd)

19322 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
 19323 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
 19324 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
 19325 % \notbackslash (wasysym)
 19326 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
 19327 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-
 slash (mathabx)
 19328 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
 19329 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
 19330 % \APLleftarrowbox (wasysym)
 19331 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
 19332 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
 19333 % \APLrightarrowbox (wasysym)
 19334 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
 19335 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLu-
 parrowbox (wasysym)
 19336 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
 19337 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
 19338 % \APLdownarrowbox (wasysym)
 19339 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
 19340 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
 19341 % \APLinup (wasysym)
 19342 \DeclareTextCommand{\textAPLinup}{PU}{\9043\136}%* U+235E
 19343 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
 19344 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
 19345 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
 19346 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
 19347 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
 19348 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
 19349 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
 19350 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
 19351 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-
 CAL BAR;
 19352 % \ForwardToIndex (marvosym)
 19353 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
 19354 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-
 CAL BAR;
 19355 % \RewindToIndex (marvosym)
 19356 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

51.2.24 Control Pictures: U+2400 to U+243F

19357 % U+2422 BLANK SYMBOL
 19358 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 19359 % U+2423 OPEN BOX; blank
 19360 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

51.2.25 Optical Character Recognition: U+2440 to U+245F

19361 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)
 19362 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A
 19363 %* \textbbslash -> \varparallelinv (txfonts/pxfonts)

51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

```
19364 % U+2460 CIRCLED DIGIT ONE; onecircle
19365 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
19366 % U+2461 CIRCLED DIGIT TWO; twocircle
19367 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
19368 % U+2462 CIRCLED DIGIT THREE; threecircle
19369 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
19370 % U+2463 CIRCLED DIGIT FOUR; fourcircle
19371 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
19372 % U+2464 CIRCLED DIGIT FIVE; fivecircle
19373 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
19374 % U+2465 CIRCLED DIGIT SIX; sixcircle
19375 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
19376 % U+2466 CIRCLED DIGIT SEVEN; sevendigit
19377 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
19378 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
19379 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
19380 % U+2468 CIRCLED DIGIT NINE; ninecircle
19381 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
19382 % U+2469 CIRCLED NUMBER TEN; tencircle
19383 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
19384 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
19385 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
19386 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
19387 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
19388 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
19389 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
19390 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
19391 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
19392 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
19393 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
19394 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
19395 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
19396 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
19397 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
19398 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
19399 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
19400 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
19401 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
19402 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
19403 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
19404 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
19405 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
19406 % \CircledA (marvosym)
19407 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
19408 %* \textCircledA -> \CleaningA
19409 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
19410 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
19411 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
```

19412 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
19413 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
19414 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
19415 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
19416 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
19417 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
19418 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
19419 % \CleaningF (marvosym)
19420 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
19421 % \CleaningFF (marvosym)
19422 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
19423 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
19424 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
19425 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
19426 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
19427 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
19428 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
19429 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
19430 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
19431 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
19432 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
19433 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
19434 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
19435 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
19436 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
19437 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
19438 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
19439 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
19440 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
19441 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
19442 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
19443 % \CleaningP (marvosym)
19444 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
19445 % \CleaningPP (marvosym)
19446 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
19447 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
19448 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
19449 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
19450 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
19451 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
19452 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
19453 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
19454 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
19455 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
19456 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
19457 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
19458 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
19459 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
19460 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
19461 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle

19462 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 19463 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 19464 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 19465 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 19466 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 19467 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 19468 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 19469 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 19470 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 19471 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 19472 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 19473 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 19474 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 19475 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 19476 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 19477 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 19478 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 19479 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 19480 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 19481 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 19482 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 19483 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 19484 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 19485 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 19486 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 19487 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 19488 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 19489 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 19490 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 19491 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 19492 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 19493 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 19494 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 19495 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 19496 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 19497 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 19498 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 19499 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 19500 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 19501 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 19502 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 19503 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 19504 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 19505 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 19506 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 19507 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 19508 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 19509 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 19510 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 19511 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle

```

19512 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
19513 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
19514 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
19515 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
19516 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
19517 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
19518 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
19519 % U+24EA CIRCLED DIGIT ZERO
19520 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

51.2.27 Box Drawing: U+2500 to 257F

```

19521 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
      Line (marvosym)
19522 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
19523 %* \textCuttingLine -> \Kutline (marvosym)
19524 %* \textCuttingLine -> \CutLine (marvosym)
19525 %* \textCuttingLine -> \Cutline (marvosym)

```

51.2.28 Geometric Shapes: U+25A0 to U+25FF

```

19526 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
19527 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
19528 %* \textUParrow -> \MoveUp (marvosym)
19529 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
19530 % \bigtriangleup (LaTeX)
19531 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
19532 %* \textbigtriangleup -> \APLup (wasysym)
19533 %* \textbigtriangleup -> \Bleech (marvosym)
19534 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
19535 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
19536 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
      tion);
19537 % whiterightpointingtriangle; \triangleright (LaTeX)
19538 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
19539 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
19540 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
19541 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
19542 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
19543 %* \textDOWNarrow -> \MoveDown (marvosym)
19544 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
      angle;
19545 % \bigtriangledown (LaTeX)
19546 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19547 %* \textbigtriangledown -> \APLdown (wasysym)
19548 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19549 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19550 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
      striction);
19551 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19552 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19553 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)

```

```

19554 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19555 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19556 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19557 %* \textdiamond -> \Diamond (wasysym)
19558 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19559 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19560 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19561 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19562 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19563 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19564 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19565 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19566 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19567 % \boxbar (stmaryrd)
19568 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19569 % U+25EF LARGE CIRCLE; largecircle
19570 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19571 %* \textbigcircle -> \varbigcirc (stmaryrd)
19572 %

```

51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

```

19573 % U+2601 CLOUD; \Cloud (ifsym)
19574 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19575 % U+2605 BLACK STAR; \FiveStar (bbding)
19576 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19577 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19578 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19579 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19580 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19581 %* \textPhone -> \Telefon (marvosym)
19582 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19583 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19584 %* \textboxempty -> \Box (wasysym)
19585 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19586 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19587 %* \textCheckedbox -> \CheckedBox (marvosym)
19588 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19589 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19590 %* \textCrossedbox -> \XBox (wasysym)
19591 %* \textCrossedbox -> \CrossedBox (marvosym)
19592 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19593 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19594 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
19595 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19596 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
19597 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
19598 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
19599 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
19600 %* \textHandLeft -> \rightpointleft (fourier)
19601 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)

```

19602 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
19603 %* \textHandRight -> \leftpointright (fourier)
19604 %* \textHandRight -> \PointingHand (marvosym)
19605 %* \textHandRight -> \Pointinghand (marvosym)
19606 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
19607 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
19608 %* \textRadioactivity -> \Radiation (ifsym)
19609 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
19610 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
19611 % U+2625 ANKH; \Ankh (marvosym)
19612 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625
19613 % U+262F YIN YANG; \YinYang (marvosym)
19614 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
19615 %* \textYinYang -> \Yinyang (marvosym)
19616 %* \textYinYang -> \YingYang (marvosym)
19617 %* \textYinYang -> \Yingyang (marvosym)
19618 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
19619 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
19620 %* \textfrownie -> \Frowny (marvosym)
19621 % U+263A WHITE SMILING FACE; \smiley (wasysym)
19622 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
19623 %* \textsmiley -> \Smiley (marvosym)
19624 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
19625 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
19626 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
19627 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
19628 %* \textsun -> \Sun (marvosym)
19629 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
19630 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
19631 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
19632 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
19633 % U+263F MERCURY; \mercury (wasysym)
19634 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
19635 %* \textmercury -> \Mercury (marvosym)
19636 % U+2640 FEMALE SIGN; female; \female (wasysym)
19637 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
19638 %* \textPUfemale -> \textfemale (tipx)
19639 %* \textPUfemale -> \female (wasysym)
19640 %* \textPUfemale -> \venus (wasysym)
19641 %* \textPUfemale -> \Venus (marvosym)
19642 %* \textPUfemale -> \Female (marvosym)
19643 % U+2641 EARTH; \earth (wasysym)
19644 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
19645 %* \textearth -> \Earth (marvosym)
19646 % U+2642 MALE SIGN; male, mars; \male (wasysym)
19647 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
19648 %* \textmale -> \mars (wasysym)
19649 %* \textmale -> \Mars (marvosym)
19650 %* \textmale -> \Male (marvosym)
19651 % U+2643 JUPITER; \jupiter (wasysym)

```

19652 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
19653 %* \textjupiter -> \Jupiter (marvosym)
19654 % U+2644 SATURN; \saturn (wasysym)
19655 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
19656 %* \textsaturn -> \Saturn (marvosym)
19657 % U+2645 URANUS; \uranus (wasysym)
19658 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
19659 %* \texturanus -> \Uranus (marvosym)
19660 % U+2646 NEPTUNE; \neptune (wasysym)
19661 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
19662 %* \textneptune -> \Neptune (marvosym)
19663 % U+2647 PLUTO; \pluto (wasysym)
19664 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
19665 %* \textpluto -> \Pluto (marvosym)
19666 % U+2648 ARIES; \aries (wasysym)
19667 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
19668 %* \textaries -> \Aries (marvosym)
19669 % U+2649 TAURUS; \taurus (wasysym)
19670 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
19671 %* \texttaurus -> \Taurus (marvosym)
19672 % U+264A GEMINI; \gemini (wasysym)
19673 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
19674 %* \textgemini -> \Gemini (marvosym)
19675 % U+264B CANCER; \cancer (wasysym)
19676 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
19677 %* \textcancer -> \Cancer (marvosym)
19678 % U+264C LEO; \leo (wasysym)
19679 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
19680 %* \textleo -> \Leo (marvosym)
19681 % U+264D VIRGO; \virgo (wasysym)
19682 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
19683 %* \textvirgo -> \Virgo (marvosym)
19684 % U+264E LIBRA; \libra (wasysym)
19685 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
19686 %* \textlibra -> \Libra (marvosym)
19687 % U+264F SCORPIO; \scorpio (wasysym)
19688 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
19689 %* \textscorpio -> \Scorpio (marvosym)
19690 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
19691 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
19692 %* \textsagittarius -> \Sagittarius (marvosym)
19693 % U+2651 CAPRICORN; \capricornus (wasysym)
19694 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
19695 %* \textcapricornus -> \Capricorn (marvosym)
19696 % U+2652 AQUARIUS; \aquarius (wasysym)
19697 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
19698 %* \textaquarius -> \Aquarius (marvosym)
19699 % U+2653 PISCES; \pisces (wasysym)
19700 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
19701 %* \textpisces -> \Pisces (marvosym)

```

```

19702 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
19703 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19704 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19705 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19706 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19707 %* \textheartsuitwhite -> \Heart (marvosym)
19708 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19709 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19710 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
19711 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
19712 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
19713 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
19714 %* \textclubsuitblack -> \clubsuit (MnSymbol)
19715 % U+2664 WHITE SPADE SUIT; spadesuitwhite
19716 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
19717 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
19718 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
19719 % U+2666 BLACK DIAMOND SUIT; diamond
19720 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
19721 % U+2667 WHITE CLUB SUIT; clubsuitwhite
19722 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
19723 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
19724 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
19725 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
19726 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
19727 %* \textmusicalnote -> \eighthnote (wasysym, arev)
19728 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
19729 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
19730 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
    note (arev)
19731 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
19732 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
19733 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
19734 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
19735 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
19736 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
19737 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
19738 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
19739 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
19740 %* \textrecycle -> \Recycling (marvosym)
19741 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
19742 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
19743 % U+2691 BLACK FLAG; \Flag (ifsym)
19744 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
19745 %* \textFlag -> \VarFlag (ifsym)
19746 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
19747 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
19748 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
19749 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
19750 %* \textdsmilitary -> \textxswup (fourier)

```

19751 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
 19752 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
 19753 % U+2696 SCALES; \dsjuridical (dictsym)
 19754 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
 19755 % U+2697 ALEMBIC; \dschemical (dictsym)
 19756 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
 19757 % U+2698 FLOWER; \dsbiological (dictsym)
 19758 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
 19759 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
 19760 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
 19761 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
 19762 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
 19763 % U+26A0 WARNING SIGN; \danger (fourier)
 19764 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
 19765 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
 19766 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
 19767 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
 19768 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
 19769 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)
 19770 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
 19771 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
 19772 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
 19773 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
 19774 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
 19775 % U+26AD MARRIAGE SYMBOL
 19776 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 19777 % U+26AE DIVORCE SYMBOL
 19778 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
 19779 % U+26B2 NEUTER; \textuncrfemale (tipx)
 19780 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2
 19781 %* \textPUuncrfemale -> \textuncrfemale (tipx)
 19782 % U+26B9 SEXTILE; \hexstar (wasysym)
 19783 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
 19784 % U+26BD SOCCER BALL; \Football (marvosym)
 19785 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
 19786 %* \textSoccerBall -> \Football (marvosym)
 19787 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
 19788 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
 19789 % U+26C6 RAIN; \Rain (ifsym)
 19790 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
 19791 % U+26D4 NO ENTRY; \noway (fourier)
 19792 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
 19793 % U+26F0 MOUNTAIN; \Mountain (ifsym)
 19794 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
 19795 % U+26FA TENT; \Tent (ifsym)
 19796 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

51.2.30 Dingbats: U+2700 to U+27BF

19797 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)

19798 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
 19799 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
 19800 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
 19801 % U+2702 BLACK SCISSORS; \ScissorRight (bding)
 19802 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
 19803 %* \textScissorRight -> \RightScissors (marvosym)
 19804 %* \textScissorRight -> \Leftscissors (marvosym)
 19805 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)
 19806 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
 19807 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)
 19808 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
 19809 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)
 19810 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
 19811 % U+2707 TAPE DRIVE; \Tape (bding)
 19812 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
 19813 % U+2708 AIRPLANE; \Plane (bding)
 19814 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
 19815 % U+2709 ENVELOPE; \Envelope (bding),
 19816 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
 19817 %* \textEnvelope -> \Letter (marvosym)
 19818 % U+270C VICTORY HAND; \Peace (bding)
 19819 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
 19820 % U+270D WRITING HAND; \WritingHand (marvosym)
 19821 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
 19822 %* \textWritingHand -> \Writinghand (marvosym)
 19823 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)
 19824 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E
 19825 % U+270F PENCIL; \PencilRight (bding)
 19826 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
 19827 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)
 19828 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
 19829 % U+2711 WHITE NIB; \NibRight (bding)
 19830 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
 19831 % U+2712 BLACK NIB; \NibSolidRight (bding)
 19832 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
 19833 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)
 19834 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
 19835 %* \textCheckmark -> \checkmark (MnSymbol)
 19836 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)
 19837 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
 19838 % U+2715 MULTIPLICATION X; \XSolid (bding)
 19839 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
 19840 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)
 19841 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
 19842 % U+2717 BALLOT X; \XSolidBrush (bding)
 19843 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
 19844 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)
 19845 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
 19846 % U+271A HEAVY GREEK CROSS; \Plus (bding)
 19847 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A

19848 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)
 19849 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
 19850 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
 19851 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
 19852 % U+271D LATIN CROSS; \Cross (bding)
 19853 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
 19854 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
 19855 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
 19856 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
 19857 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
 19858 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
 19859 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
 19860 % U+2721 STAR OF DAVID; \DavidStar (bding)
 19861 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
 19862 %* \textDavidStar -> \davidstar (wasysym)
 19863 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
 19864 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
 19865 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
 19866 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
 19867 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
 19868 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
 19869 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
 19870 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
 19871 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
 19872 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
 19873 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
 19874 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
 19875 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
 19876 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
 19877 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)
 19878 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
 19879 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
 19880 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
 19881 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
 19882 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
 19883 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
 19884 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
 19885 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
 19886 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
 19887 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
 19888 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
 19889 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
 19890 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
 19891 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
 19892 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
 19893 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
 19894 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
 19895 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)
 19896 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735

19897 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)
 19898 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
 19899 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
 19900 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737
 19901 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
 19902 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
 19903 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
 19904 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
 19905 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
 19906 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
 19907 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
 19908 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
 19909 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
 19910 % \SixFlowerOpenCenter (bding)
 19911 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
 19912 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
 19913 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
 19914 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
 19915 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
 19916 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
 19917 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
 19918 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
 19919 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
 19920 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
 19921 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
 19922 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
 19923 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
 19924 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)
 19925 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
 19926 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
 19927 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
 19928 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
 19929 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
 19930 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
 19931 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
 19932 % U+2747 SPARKLE; \Sparkle (bding)
 19933 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
 19934 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
 19935 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
 19936 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
 19937 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
 19938 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19939 % \EightFlowerPetalRemoved (bding)

19940 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
 19941 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19942 % \EightAsterisk (bding)
 19943 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
 19944 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)
 19945 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 19946 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 19947 % \SquareShadowBottomRight (bding)
 19948 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F
 19949 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 19950 % \SquareShadowTopRight (bding)
 19951 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%* U+2750
 19952 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 19953 % \SquareCastShadowBottomRight (bding)
 19954 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 19955 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 19956 % \SquareCastShadowTopRight (bding)
 19957 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 19958 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)
 19959 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%* U+2756
 19960 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)
 19961 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 19962 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)
 19963 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 19964 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)
 19965 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19966 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 19967 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 19968 % \notperp (mathabx)
 19969 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 19970 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 19971 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 19972 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 19973 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 19974 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 19975 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC
 19976 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 19977 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
 19978 %* \textlbrackdbl -> \llbracket (stmaryrd)
 19979 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 19980 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
 19981 %* \textrbrackdbl -> \rrbracket (stmaryrd)

51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19982 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
 19983 % \circlearrowleft (AmS)
 19984 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2

19985 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
 19986 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
 19987 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
 19988 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
 19989 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
 19990 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
 19991 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)
 19992 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%* U+27F7
 19993 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
 19994 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
 19995 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)
 19996 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
 19997 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)
 19998 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%* U+27FA
 19999 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
 20000 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
 20001 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
 from (stmaryrd)
 20002 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
 20003 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
 sto (stmaryrd)
 20004 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

51.2.33 Supplemental Arrows-B: U+2900 to U+297F

20005 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
 bol)
 20006 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
 20007 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
 bol)
 20008 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
 20009 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
 20010 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%* U+2923
 20011 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)
 20012 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
 20013 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)
 20014 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%* U+2925
 20015 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)
 20016 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
 20017 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
 20018 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
 20019 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
 20020 % \rcurvearrowne (MnSymbol)
 20021 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934
 20022 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
 WARDS;
 20023 % \lcurvearrowse (MnSymbol)
 20024 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
 20025 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
 WARDS;
 20026 % \lcurvearrowsw (MnSymbol)

20027 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
 20028 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
 WARDS;
 20029 % \rcurvearrowse (MnSymbol)
 20030 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
 20031 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
 Symbol)
 20032 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
 20033 %* \textlcurvearrowdown -> \RightTorque (marvosym)
 20034 %* \textlcurvearrowdown -> \Righttorque (marvosym)
 20035 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
 20036 % \rcurvearrowdown (MnSymbol)
 20037 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%* U+2939
 20038 %* \textrcurvearrowdown -> \LeftTorque (marvosym)
 20039 %* \textrcurvearrowdown -> \Lefttorque (marvosym)
 20040 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
 bol)
 20041 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%* U+293A
 20042 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
 20043 % \rcurvearrowright (MnSymbol)
 20044 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%* U+293B
 20045 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-
 poon (mathabx)
 20046 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
 20047 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-
 poon (mathabx)
 20048 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
 20049 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
 20050 % \updownharpoonrightleft (MnSymbol)
 20051 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
 20052 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
 20053 % \updownharpoonleftright (MnSymbol)
 20054 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
 20055 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
 20056 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
 20057 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
 20058 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
 20059 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
 20060 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
 20061 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
 WARDS HARPOON
 20062 % WITH BARB DOWN; \rightrightarpoons (mathabx)
 20063 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
 20064 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 20065 % WITH BARB RIGHT; \downdownharpoons (mathabx)
 20066 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
 20067 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
 20068 % \leftbarharpoon (mathabx)
 20069 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A

20070 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
 20071 % LONG DASH; \barleftharpoon (mathabx)
 20072 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
 20073 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
 20074 % LONG DASH; \rightbarharpoon (mathabx)
 20075 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
 20076 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
 20077 % LONG DASH; \barrightharpoon (mathabx)
 20078 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
 20079 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 20080 % WITH BARB RIGHT; \updownharpoons (mathabx)
 20081 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
 20082 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
 WARDS HARPOON
 20083 % WITH BARB RIGHT; \downupharpoons (mathabx)
 20084 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
 20085 % U+297F DOWN FISH TAIL
 20086 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

20087 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)
 20088 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
 20089 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 20090 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 20091 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 20092 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 20093 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 20094 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 20095 %* \textobar -> \textvarobar (stmaryrd)
 20096 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 20097 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 20098 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 20099 %* \textobslash -> \backslash (mathabx)
 20100 %* \textobslash -> \varobslash (stmaryrd)
 20101 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 20102 DIVIDED BY VERTICAL BAR; \obot (mathabx)
 20103 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 20104 %* \textobot -> \odplus (ulsy)
 20105 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
 vosym)
 20106 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 20107 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 20108 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 20109 %* \textolessthan -> \varolessthan (stmaryrd)
 20110 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 20111 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 20112 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 20113 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 20114 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4

20115 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
 20116 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
 20117 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 20118 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 20119 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 20120 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 20121 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 20122 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 20123 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 20124 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 20125 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 20126 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 20127 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 20128 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

20129 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 20130 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 20131 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
 20132 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
 20133 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
 20134 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
 20135 % U+2A1D JOIN; \Join (latexsym, amssymb, mathabx, txfonts,
 20136 % pxfonts, wasysym)
 20137 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
 20138 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
 20139 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
 20140 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
 20141 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
 20142 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
 20143 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
 20144 %* \textminusdot -> \divdot (mathabx)
 20145 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
 20146 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
 20147 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
 20148 % \dtimes (mathdesign)
 20149 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
 20150 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
 20151 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
 20152 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
 20153 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
 20154 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
 20155 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
 20156 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
 20157 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
 20158 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
 20159 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
 20160 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
 20161 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
 20162 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)

20163 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
 20164 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
 20165 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
 20166 %* \textdoublevee -> \merge (stmaryrd)
 20167 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
 20168 % \doublebarwedge (AmS)
 20169 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
 20170 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
 20171 % \veedoublebar (mahtabx)
 20172 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
 20173 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
 20174 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
 20175 % \neqdot (MnSymbol)
 20176 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
 20177 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
 20178 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
 20179 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
 20180 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
 20181 % \nleqslant (txfonts/pxfonts)
 20182 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
 20183 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
 20184 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
 20185 % \ngeqslant (txfonts/pxfonts)
 20186 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
 20187 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
 20188 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
 20189 % \nlessapprox (txfonts/pxfonts)
 20190 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
 20191 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
 20192 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
 20193 % \ngtrapprox (txfonts/pxfonts)
 20194 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
 20195 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
 20196 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
 20197 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
 20198 % \gneq (AmS)
 20199 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
 20200 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
 20201 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
 20202 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
 20203 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
 20204 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;
 20205 % \lesseqgtr (AmS)
 20206 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%* U+2A8B
 20207 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;
 20208 % \gtreqless (AmS)
 20209 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
 20210 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
 20211 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
 20212 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)

20213 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
 20214 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
 20215 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
 20216 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
 20217 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
 20218 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-Symbol)
 20219 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
 20220 % \npreceq (txfonts/pxfonts)
 20221 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
 20222 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-Symbol)
 20223 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
 20224 % \nsucceq (txfonts/pxfonts)
 20225 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
 20226 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq (mathabx)
 20227 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
 20228 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq (mathabx)
 20229 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
 20230 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
 20231 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
 20232 % \npreceqq (txfonts/pxfonts)
 20233 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
 20234 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
 20235 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
 20236 % \nsucceqq (txfonts/pxfonts)
 20237 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
 20238 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
 20239 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
 20240 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
 20241 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
 20242 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
 20243 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
 20244 % \nprecapprox (txfonts/pxfonts)
 20245 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
 20246 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
 20247 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
 20248 % \nsuccapprox (txfonts/pxfonts)
 20249 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
 20250 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnapprox (AmS)
 20251 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
 20252 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnapprox (AmS)
 20253 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
 20254 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
 20255 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
 20256 % \nsubseteqq (txfonts/pxfonts, mathabx)

20257 \DeclareTextCommand{\textnsubsepeq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
 20258 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteq (AmS)
 20259 \DeclareTextCommand{\textsupseteq}{PU}{\9052\306}%* U+2AC6
 20260 % \nsupseteq (mathabx)
 20261 \DeclareTextCommand{\textnsupseteq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
 20262 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
 20263 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
 20264 %* \textdashV -> \leftVdash (MnSymbol)
 20265 % \ndashV (mathabx)
 20266 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
 20267 %* \textndashV -> \nleftVdash (MnSymbol)
 20268 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
 20269 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
 20270 %* \textDashv -> \leftmodels (MnSymbol)
 20271 % \nDashv (mathabx)
 20272 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
 20273 %* \textnDashv -> \nleftmodels (MnSymbol)
 20274 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
 20275 % \DashV (mathabx)
 20276 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
 20277 %* \textDashV -> \leftModels (MnSymbol)
 20278 % \nDashV (mathabx)
 20279 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
 20280 %* \textnDashV -> \nleftModels (MnSymbol)
 20281 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
 20282 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
 20283 % \ndownmodels (MnSymbol)
 20284 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
 20285 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
 20286 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
 20287 % \nupmodels (MnSymbol)
 20288 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 20289 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 20290 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 20291 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
 20292 % \interleave (stmaryrd)
 20293 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 20294 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
 20295 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 20296 %* \textsslash -> \varparallel (txfonts\pxfonts)

51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

20297 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 20298 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 20299 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 20300 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

51.2.37 Latin Extended-C: U+2C60 to U+2C7F

20301 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 20302 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

20303 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
20304 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
20305 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
20306 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
20307 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
20308 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

51.2.39 Modifier Tone Letters: U+A700 to U+A71F

20309 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
20310 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
20311 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
20312 % \textdownstep (tipa)
20313 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

51.2.40 Latin Extended-D: U+A720 to U+A7FF

20314 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
20315 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
20316 %* \textPUheng -> \textheng (tipx)
20317 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
20318 \DeclareTextCommand{\textPUIhookfour}{PU}{\9247\054}% U+A72C
20319 %* \textPUIhookfour -> \textlhookfour (tipx)
20320 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
20321 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
20322 %* \textPUscf -> \textscf (tipx)
20323 % U+A735 LATIN SMALL LETTER AO; \textaoilig (tipx)
20324 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
20325 %* \textPUaolig -> \textaoilig (tipx)
20326 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
20327 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
20328 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
20329 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

20330 % U+FB01 LATIN SMALL LIGATURE FI; fi
20331 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
20332 % U+FB02 LATIN SMALL LIGATURE FL; fl
20333 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

51.2.42 Musical Symbols: U+1D100 to U+1D1FF

20334 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
20335 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
20336 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
20337 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
20338 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
20339 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
20340 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
20341 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
20342 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)

20343 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
 20344 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
 20345 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
 20346 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
 20347 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
 20348 %* \textfullnote -> \Ganz (harmony)
 20349 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
 20350 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
 20351 %* \texthalfnote -> \Halb (harmony)
 20352 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
 20353 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
 20354 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
 20355 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
 20356 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
 20357 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
 20358 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
 20359 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162

51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

20360 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
 20361 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
 20362 % U+1F319 CRESCENT MOON; \Moon (marvosym)
 20363 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
 20364 % U+1F468 MAN; \ManFace (marvosym)
 20365 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
 20366 % U+1F469 WOMAN; \WomanFace (marvosym)
 20367 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
 20368 %* \textWomanFace -> \Womanface (marvosym)
 20369 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
 20370 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
 20371 %* \textFax -> \Faxmachine (marvosym)
 20372 % U+1F525 FIRE; \Fire (ifsym)
 20373 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20374 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
 20375 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
 20376 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
 20377 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
 20378 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
 20379 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

51.2.45 Miscellaneous

20380 \DeclareTextCommand{\SS}{PU}{SS}%
 20381 % \textcopyleft (textcomp)
 20382 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
 20383 % \ccnc (cclicenss)
 20384 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
 20385 % \ccnd (cclicenss)
 20386 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD

```

20387 % \ccsa (ccllicenses)
20388 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
20389 % \Info (marvosym, china2e)
20390 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
20391 % \CESign (marvosym)
20392 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
20393 %* \textCESign -> \CESign (marvosym)

```

51.2.46 Aliases

Aliases (german.sty)

```

20394 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
20395 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
20396 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
20397 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
20398 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
20399 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
20400 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
20401 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

20402 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
20403 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
20404 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
20405 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
20406 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
20407 </puenc>

```

51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

20408 <*puvnenc>
20409 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
20410 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
20411 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
20412 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
20413 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
20414 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
20415 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
20416 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
20417 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
20418 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
20419 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
20420 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20421 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20422 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20423 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20424 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20425 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3

```

20426 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
 20427 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
 20428 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
 20429 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
 20430 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
 20431 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
 20432 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
 20433 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7
 20434 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
 20435 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
 20436 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
 20437 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
 20438 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
 20439 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
 20440 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 20441 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
 20442 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
 20443 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1
 20444 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
 20445 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
 20446 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 20447 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
 20448 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
 20449 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
 20450 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 20451 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 20452 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 20453 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2
 20454 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
 20455 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 20456 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
 20457 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
 20458 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3
 20459 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
 20460 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
 20461 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
 20462 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
 20463 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD
 20464 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
 20465 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
 20466 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 20467 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 20468 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9
 20469 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
 20470 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 20471 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
 20472 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1
 20473 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB
 20474 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
 20475 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF

20476 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 20477 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
 20478 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3
 20479 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
 20480 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
 20481 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
 20482 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
 20483 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0
 20484 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
 20485 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 20486 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
 20487 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
 20488 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0
 20489 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
 20490 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
 20491 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
 20492 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
 20493 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
 20494 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
 20495 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
 20496 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 20497 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
 20498 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8
 20499 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
 20500 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
 20501 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
 20502 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
 20503 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
 20504 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
 20505 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
 20506 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
 20507 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
 20508 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC
 20509 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
 20510 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
 20511 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
 20512 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
 20513 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2
 20514 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
 20515 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
 20516 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
 20517 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
 20518 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
 20519 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
 20520 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
 20521 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
 20522 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
 20523 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC
 20524 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
 20525 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0

```

20526 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
20527 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
20528 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
20529 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
20530 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
20531 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
20532 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
20533 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
20534 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
20535 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
20536 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
20537 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
20538 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
20539 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20540 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20541 </puvnenc>

```

51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20542 <*puarenc>
20543 % U+0621;afii57409;ARABIC LETTER HAMZA
20544 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20545 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20546 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20547 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20548 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20549 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20550 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20551 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20552 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
20553 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
20554 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
20555 % U+0627;afii57415;ARABIC LETTER ALEF
20556 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
20557 % U+0628;afii57416;ARABIC LETTER BEH
20558 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
20559 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
20560 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
20561 % U+062A;afii57418;ARABIC LETTER TEH
20562 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
20563 % U+062B;afii57419;ARABIC LETTER THEH
20564 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
20565 % U+062C;afii57420;ARABIC LETTER JEEM
20566 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
20567 % U+062D;afii57421;ARABIC LETTER HAH
20568 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
20569 % U+062E;afii57422;ARABIC LETTER KHAH

```


20570 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
 20571 % U+062F;afii57423;ARABIC LETTER DAL
 20572 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
 20573 % U+0630;afii57424;ARABIC LETTER THAL
 20574 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
 20575 % U+0631;afii57425;ARABIC LETTER REH
 20576 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
 20577 % U+0632;afii57426;ARABIC LETTER ZAIN
 20578 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
 20579 % U+0633;afii57427;ARABIC LETTER SEEN
 20580 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 20581 % U+0634;afii57428;ARABIC LETTER SHEEN
 20582 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 20583 % U+0635;afii57429;ARABIC LETTER SAD
 20584 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 20585 % U+0636;afii57430;ARABIC LETTER DAD
 20586 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 20587 % U+0637;afii57431;ARABIC LETTER TAH
 20588 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 20589 % U+0638;afii57432;ARABIC LETTER ZAH
 20590 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 20591 % U+0639;afii57433;ARABIC LETTER AIN
 20592 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 20593 % U+063A;afii57434;ARABIC LETTER GHAIN
 20594 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 20595 % U+0640;afii57440;ARABIC TATWEEL
 20596 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 20597 % U+0641;afii57441;ARABIC LETTER FEH
 20598 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 20599 % U+0642;afii57442;ARABIC LETTER QAF
 20600 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 20601 % U+0643;afii57443;ARABIC LETTER KAF
 20602 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 20603 % U+0644;afii57444;ARABIC LETTER LAM
 20604 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 20605 % U+0645;afii57445;ARABIC LETTER MEEM
 20606 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 20607 % U+0646;afii57446;ARABIC LETTER NOON
 20608 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 20609 % U+0647;afii57470;ARABIC LETTER HEH
 20610 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 20611 % U+0648;afii57448;ARABIC LETTER WAW
 20612 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 20613 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA
 20614 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 20615 % U+064A;afii57450;ARABIC LETTER YEH
 20616 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A
 20617 % U+064B;afii57451;ARABIC FATHATAN
 20618 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B

20619 % U+064C;afii57452;ARABIC DAMMATAN
 20620 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 20621 % U+064D;afii57453;ARABIC KASRATAN
 20622 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 20623 % U+064E;afii57454;ARABIC FATHA
 20624 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 20625 % U+064F;afii57455;ARABIC DAMMA
 20626 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 20627 % U+0650;afii57456;ARABIC KASRA
 20628 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 20629 % U+0651;afii57457;ARABIC SHADDA
 20630 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 20631 % U+0652;afii57458;ARABIC SUKUN
 20632 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652

 Farsi
 20633 % U+067E ARABIC LETTER PEH; afii57506
 20634 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
 20635 % U+0686 ARABIC LETTER TCHEH; afii57507
 20636 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
 20637 % U+0698 ARABIC LETTER JEH; afii57508
 20638 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
 20639 % U+06A9 ARABIC LETTER KEHEH
 20640 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
 20641 % U+06AF ARABIC LETTER GAF; afii57509
 20642 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
 20643 % U+06CC ARABIC LETTER FARSI YEH
 20644 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC

 20645 % U+200C ZERO WIDTH NON-JOINER; afii61664
 20646 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C
 20647 % U+200D ZERO WIDTH JOINER; afii301
 20648 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D

 20649 </puarenc>
 20650 <*psdextra>
 20651 \Hy@VersionCheck{psdextra.def}
 20652 \newcommand*{\psdmapshortnames}{%
 20653 \let\MVPlus\textMVPlus
 20654 \let\MVComma\textMVComma
 20655 \let\MVMinus\textMVMinus
 20656 \let\MVPeriod\textMVPeriod
 20657 \let\MVDivision\textMVDivision
 20658 \let\MVZero\textMVZero
 20659 \let\MVOne\textMVOne
 20660 \let\MVTwo\textMVTwo
 20661 \let\MVThree\textMVThree
 20662 \let\MVFour\textMVFour
 20663 \let\MVFive\textMVFive
 20664 \let\MVSix\textMVSix
 20665 \let\MVSeven\textMVSeven

20666 \let\MVEight\textMVEight
 20667 \let\MVNNine\textMVNNine
 20668 \let\MVAt\textMVAt
 20669 \let\copyright\textcopyright
 20670 \let\twosuperior\texttwosuperior
 20671 \let\threesuperior\textthreesuperior
 20672 \let\onesuperior\textonesuperior
 20673 \let\Thorn\textThorn
 20674 \let\thorn\textthorn
 20675 \let\hbar\texthbar
 20676 \let\hausab\texthausab
 20677 \let\hausad\texthausad
 20678 \let\hausak\texthausak
 20679 \let\barl\textbarl
 20680 \let\inve\textinve
 20681 \let\slashc\textslashc
 20682 \let\scripta\textscripta
 20683 \let\openo\textopeno
 20684 \let\rtaild\textrtaild
 20685 \let\reve\textreve
 20686 \let\schwa\textschwa
 20687 \let\niepsilon\textniepsilon
 20688 \let\revepsilon\textrevepsilon
 20689 \let\rhookrevepsilon\texthookrevepsilon
 20690 \let\scriptg\textscriptg
 20691 \let\scg\textscg
 20692 \let\ipagamma\textipagamma
 20693 \let\babygamma\textbabygamma
 20694 \let\bari\textbari
 20695 \let\niiota\textniiota
 20696 \let\sci\textsci
 20697 \let\scn\textscn
 20698 \let\niphi\textniphi
 20699 \let\longlegr\textlonglegr
 20700 \let\scr\textscr
 20701 \let\invscr\textinvscr
 20702 \let\esh\textesh
 20703 \let\baru\textbaru
 20704 \let\niupsilon\textniupsilon
 20705 \let\scriptv\textscriptv
 20706 \let\turnv\textturnv
 20707 \let\turnw\textturnw
 20708 \let\turny\textturny
 20709 \let\scy\textscy
 20710 \let\yogh\textyogh
 20711 \let\glotstop\textglotstop
 20712 \let\revglotstop\textrevglotstop
 20713 \let\invglotstop\textinvglotstop
 20714 \let\Gamma\textGamma
 20715 \let\Delta\textDelta

20716 \let\Theta\textTheta
 20717 \let\Lambda\textLambda
 20718 \let\Xi\textXi
 20719 \let\Pi\textPi
 20720 \let\Sigma\textSigma
 20721 \let\Upsilon\textUpsilon
 20722 \let\Phi\textPhi
 20723 \let\Psi\textPsi
 20724 \let\Omega\textOmega
 20725 \let\alpha\textalpha
 20726 \let\beta\textbeta
 20727 \let\gamma\textgamma
 20728 \let\delta\textdelta
 20729 \let\epsilon\textepsilon
 20730 \let\zeta\textzeta
 20731 \let\eta\texteta
 20732 \let\theta\texttheta
 20733 \let\iota\textiota
 20734 \let\kappa\textkappa
 20735 \let\lambda\textlambda
 20736 \let\mugreek\textmugreek
 20737 \let\nu\textnu
 20738 \let\xi\textxi
 20739 \let\pi\textpi
 20740 \let\rho\textrho
 20741 \let\varsigma\textvarsigma
 20742 \let\sigma\textsigma
 20743 \let\tau\texttau
 20744 \let\upsilon\textupsilon
 20745 \let\phi\textphi
 20746 \let\chi\textchi
 20747 \let\psi\textpsi
 20748 \let\omega\textomega
 20749 \let\scd\textscd
 20750 \let\scu\textscu
 20751 \let\iinferior\textiinferior
 20752 \let\rinferior\textrinferior
 20753 \let\uinferior\textuinferior
 20754 \let\vinferior\textvinferior
 20755 \let\betainferior\textbetainferior
 20756 \let\gammainferior\textgammainferior
 20757 \let\rhoinferior\textrhoinferior
 20758 \let\phiinferior\textphiinferior
 20759 \let\chiinferior\textchiinferior
 20760 \let\barsci\textbarsci
 20761 \let\barp\textbarp
 20762 \let\barscu\textbarscu
 20763 \let\htrtaild\texthtrtaild
 20764 \let\dagger\textdagger
 20765 \let\bullet\textbullet

20766 \let\hdotfor\texthdotfor
 20767 \let\prime\textprime
 20768 \let\second\textsecond
 20769 \let\third\textthird
 20770 \let\backprime\textbackprime
 20771 \let\lefttherefore\textlefttherefore
 20772 \let\fourth\textfourth
 20773 \let\diamonddots\textdiamonddots
 20774 \let\zerosuperior\textzerosuperior
 20775 \let\isuperior\textisuperior
 20776 \let\foursuperior\textfoursuperior
 20777 \let\fivesuperior\textfivesuperior
 20778 \let\sixsuperior\textsixsuperior
 20779 \let\sevensuperior\textsevensuperior
 20780 \let\eightsuperior\texteightsuperior
 20781 \let\ninesuperior\textninesuperior
 20782 \let\plussuperior\textplussuperior
 20783 \let\minussuperior\textminussuperior
 20784 \let>equalsuperior\textequalsuperior
 20785 \let\parenleftsuperior\textparenleftsuperior
 20786 \let\parenrightsuperior\textparenrightsuperior
 20787 \let\nsuperior\textnsuperior
 20788 \let\zeroinferior\textzeroinferior
 20789 \let\oneinferior\textoneinferior
 20790 \let\twoinferior\texttwoinferior
 20791 \let\threeinferior\textthreeinferior
 20792 \let\fourinferior\textfourinferior
 20793 \let\fiveinferior\textfiveinferior
 20794 \let\sixinferior\textsixinferior
 20795 \let\seveninferior\textseveninferior
 20796 \let\eightinferior\texteightinferior
 20797 \let\nineinferior\textnineinferior
 20798 \let\plusinferior\textplusinferior
 20799 \let\minusinferior\textminusinferior
 20800 \let>equalsinferior\textequalsinferior
 20801 \let\parenleftinferior\textparenleftinferior
 20802 \let\parenrightinferior\textparenrightinferior
 20803 \let\ainferior\textainferior
 20804 \let\einferior\texteinferior
 20805 \let\oinferior\textoinferior
 20806 \let\xinferior\textxinferior
 20807 \let\schwainferior\textschwainferior
 20808 \let\hinferior\texthinferior
 20809 \let\kinferior\textkinferior
 20810 \let\linferior\textlinferior
 20811 \let\mininferior\textmininferior
 20812 \let\ninferior\textninferior
 20813 \let\pinferior\textpinferior
 20814 \let\sinferior\textsinferior
 20815 \let\tinferior\texttinferior

20816 \let\Deleatur\textDeleatur
 20817 \let\hslash\texthslash
 20818 \let\Im\textIm
 20819 \let\ell\textell
 20820 \let\wp\textwp
 20821 \let\Re\textRe
 20822 \let\mho\textmho
 20823 \let\riota\textriota
 20824 \let\Finv\textFinv
 20825 \let\aleph\textaleph
 20826 \let\beth\textbeth
 20827 \let\gimel\textgimel
 20828 \let\daleth\textdaleth
 20829 \let\xfax\textfax
 20830 \let\Game\textGame
 20831 \let\leftarrow\textleftarrow
 20832 \let\uparrow\textuparrow
 20833 \let\rightarrow\textrightarrow
 20834 \let\downarrow\textdownarrow
 20835 \let\leftrightarrow\textleftrightarrow
 20836 \let\updownarrow\textupdownarrow
 20837 \let\nwarrow\textnwarrow
 20838 \let\nearrow\textnearrow
 20839 \let\searrow\textsearrow
 20840 \let\swarrow\textswarrow
 20841 \let\nleftarrow\textnleftarrow
 20842 \let\nrightarrow\textnrightarrow
 20843 \let\twoheadleftarrow\texttwoheadleftarrow
 20844 \let\ntwoheadleftarrow\textntwoheadleftarrow
 20845 \let\twoheaduparrow\texttwoheaduparrow
 20846 \let\twoheadrightarrow\texttwoheadrightarrow
 20847 \let\ntwoheadrightarrow\textntwoheadrightarrow
 20848 \let\twoheaddownarrow\texttwoheaddownarrow
 20849 \let\leftarrowtail\textleftarrowtail
 20850 \let\rightarrowtail\textrightarrowtail
 20851 \let\mapsto\textmapsto
 20852 \let\hookleftarrow\texthookleftarrow
 20853 \let\hookrightarrow\texthookrightarrow
 20854 \let\looparrowleft\textlooparrowleft
 20855 \let\looparrowright\textlooparrowright
 20856 \let\leftrightharpoonup\textleftrightharpoonup
 20857 \let\lightning\textlightning
 20858 \let\dlsh\textdlsh
 20859 \let\curvearrowleft\textcurvearrowleft
 20860 \let\curvearrowright\textcurvearrowright
 20861 \let\leftharpoonup\textleftharpoonup
 20862 \let\leftharpoondown\textleftharpoondown
 20863 \let\upharpoonright\textupharpoonright
 20864 \let\upharpoonleft\textupharpoonleft
 20865 \let\rightharpoonup\text\rightharpoonup

20866 $\backslash\mathrm{rightharpoondown}\text{rightharpoondown}$
 20867 $\backslash\mathrm{downharpoonright}\text{downharpoonright}$
 20868 $\backslash\mathrm{downharpoonleft}\text{downharpoonleft}$
 20869 $\backslash\mathrm{rightleftarrows}\text{rightleftarrows}$
 20870 $\backslash\mathrm{updownarrows}\text{updownarrows}$
 20871 $\backslash\mathrm{leftrightarrows}\text{leftrightarrows}$
 20872 $\backslash\mathrm{leftleftarrows}\text{leftleftarrows}$
 20873 $\backslash\mathrm{upuparrows}\text{upuparrows}$
 20874 $\backslash\mathrm{rightrightarrows}\text{rightrightarrows}$
 20875 $\backslash\mathrm{downdownarrows}\text{downdownarrows}$
 20876 $\backslash\mathrm{leftrightharpoons}\text{leftrightharpoons}$
 20877 $\backslash\mathrm{rightleftharpoons}\text{rightleftharpoons}$
 20878 $\backslash\mathrm{nLeftarrow}\text{nLeftarrow}$
 20879 $\backslash\mathrm{nLeftrightarrow}\text{nLeftrightarrow}$
 20880 $\backslash\mathrm{nRrightarrow}\text{nRrightarrow}$
 20881 $\backslash\mathrm{Leftarrow}\text{Leftarrow}$
 20882 $\backslash\mathrm{Uparrow}\text{Uparrow}$
 20883 $\backslash\mathrm{Rrightarrow}\text{Rrightarrow}$
 20884 $\backslash\mathrm{Downarrow}\text{Downarrow}$
 20885 $\backslash\mathrm{Leftrightarrow}\text{Leftrightarrow}$
 20886 $\backslash\mathrm{Updownarrow}\text{Updownarrow}$
 20887 $\backslash\mathrm{Nwarrow}\text{Nwarrow}$
 20888 $\backslash\mathrm{Nearrow}\text{Nearrow}$
 20889 $\backslash\mathrm{Searrow}\text{Searrow}$
 20890 $\backslash\mathrm{Swarrow}\text{Swarrow}$
 20891 $\backslash\mathrm{Lleftarrow}\text{Lleftarrow}$
 20892 $\backslash\mathrm{Rrightarrow}\text{Rrightarrow}$
 20893 $\backslash\mathrm{leftsquigarrow}\text{leftsquigarrow}$
 20894 $\backslash\mathrm{rightsquigarrow}\text{rightsquigarrow}$
 20895 $\backslash\mathrm{dashleftarrow}\text{dashleftarrow}$
 20896 $\backslash\mathrm{dasheduparrow}\text{dasheduparrow}$
 20897 $\backslash\mathrm{dashrightarrow}\text{dashrightarrow}$
 20898 $\backslash\mathrm{dasheddownarrow}\text{dasheddownarrow}$
 20899 $\backslash\mathrm{pointer}\text{pointer}$
 20900 $\backslash\mathrm{downuparrows}\text{downuparrows}$
 20901 $\backslash\mathrm{leftarrowtriangle}\text{leftarrowtriangle}$
 20902 $\backslash\mathrm{rightarrowtriangle}\text{rightarrowtriangle}$
 20903 $\backslash\mathrm{leftrightarrowtriangle}\text{leftrightarrowtriangle}$
 20904 $\backslash\mathrm{forall}\text{forall}$
 20905 $\backslash\mathrm{complement}\text{complement}$
 20906 $\backslash\mathrm{partial}\text{partial}$
 20907 $\backslash\mathrm{exists}\text{exists}$
 20908 $\backslash\mathrm{nexists}\text{nexists}$
 20909 $\backslash\mathrm{emptyset}\text{emptyset}$
 20910 $\backslash\mathrm{triangle}\text{triangle}$
 20911 $\backslash\mathrm{nabla}\text{nabla}$
 20912 $\backslash\mathrm{in}\text{in}$
 20913 $\backslash\mathrm{notin}\text{notin}$
 20914 $\backslash\mathrm{smallin}\text{smallin}$
 20915 $\backslash\mathrm{ni}\text{ni}$

20916 `\let\notowner\textnotowner`
 20917 `\let\smallowns\textsmallowns`
 20918 `\let\prod\textprod`
 20919 `\let\amalg\textamalg`
 20920 `\let\sum\textsum`
 20921 `\let\mp\textmp`
 20922 `\let\dotplus\textdotplus`
 20923 `\let\Divides\textDivides`
 20924 `\let\DividesNot\textDividesNot`
 20925 `\let\setminus\textsetminus`
 20926 `\let\ast\textast`
 20927 `\let\circ\textcirc`
 20928 `\let\surd\textsurd`
 20929 `\let\propto\textpropto`
 20930 `\let\infty\textinfty`
 20931 `\let\angle\textangle`
 20932 `\let\measuredangle\textmeasuredangle`
 20933 `\let\sphericalangle\textsphericalangle`
 20934 `\let\mid\textmid`
 20935 `\let\nmid\textnmid`
 20936 `\let\parallel\textparallel`
 20937 `\let\nparallel\textnparallel`
 20938 `\let\wedge\textwedge`
 20939 `\let\owedge\textowedge`
 20940 `\let\vee\textvee`
 20941 `\let\ovee\textovee`
 20942 `\let\cap\textcap`
 20943 `\let\cup\textcup`
 20944 `\let\int\textint`
 20945 `\let\iint\textiint`
 20946 `\let\iiint\textiiint`
 20947 `\let\oint\textoint`
 20948 `\let\oiint\textoiint`
 20949 `\let\ointclockwise\textointclockwise`
 20950 `\let\ointctrlockwise\textointctrlockwise`
 20951 `\let\therefore\texttherefore`
 20952 `\let\because\textbecause`
 20953 `\let\vdots\textvdots`
 20954 `\let\squaredots\textsquaredots`
 20955 `\let\dotminus\textdotminus`
 20956 `\let\eqcolon\texteqcolon`
 20957 `\let\sim\textsim`
 20958 `\let\backsim\textbacksim`
 20959 `\let\nbacksim\textnbacksim`
 20960 `\let\wr\textwr`
 20961 `\let\sim\textsim`
 20962 `\let\eqsim\texteqsim`
 20963 `\let\neqsim\textneqsim`
 20964 `\let\simeq\textsimeq`
 20965 `\let\sim\textsim`

20966 \let\cong\textcong
 20967 \let\ncong\textncong
 20968 \let\approx\textapprox
 20969 \let\napprox\textnapprox
 20970 \let\approxeq\textapproxeq
 20971 \let\napproxeq\textnapproxeq
 20972 \let\triplesim\texttriplesim
 20973 \let\ntriplesim\textntriplesim
 20974 \let\backcong\textbackcong
 20975 \let\nbackcong\textnbackcong
 20976 \let\asympt\textasympt
 20977 \let\nasympt\textnasympt
 20978 \let\Bumpeq\textBumpeq
 20979 \let\nBumpeq\textnBumpeq
 20980 \let\bumpeq\textbumpeq
 20981 \let\nbumpeq\textnbumpeq
 20982 \let\doteq\textdoteq
 20983 \let\ndoteq\textndoteq
 20984 \let\doteqdot\textdoteqdot
 20985 \let\NDoteq\textNDoteq
 20986 \let\fallingdoteq\textfallingdoteq
 20987 \let\nfallingdoteq\textnfallingdoteq
 20988 \let\risingdoteq\textrisingdoteq
 20989 \let\nrisingdoteq\textnrisingdoteq
 20990 \let\colonequals\textcolonequals
 20991 \let\equalscolon\textequalscolon
 20992 \let\eqcirc\texteqcirc
 20993 \let\neqcirc\textneqcirc
 20994 \let\circeq\textcirceq
 20995 \let\ncirceq\textncirceq
 20996 \let\hateq\texthateq
 20997 \let\nhateq\textnhateq
 20998 \let\triangleeq\texttriangleeq
 20999 \let\neq\textneq
 21000 \let\ne\textne
 21001 \let\equiv\textequiv
 21002 \let\equiv\textequiv
 21003 \let\leq\textleq
 21004 \let\le\textle
 21005 \let\geq\textgeq
 21006 \let\ge\textge
 21007 \let\leqq\textleqq
 21008 \let\mleqq\textmleqq
 21009 \let\geqq\textgeqq
 21010 \let\ngeqq\textngeqq
 21011 \let\lneqq\textlneqq
 21012 \let\gneqq\textgneqq
 21013 \let\ll\textll
 21014 \let\ll\textll
 21015 \let\gg\textgg

21016 $\backslash\text{let}\backslash\text{ngg}\backslash\text{textngg}$
 21017 $\backslash\text{let}\backslash\text{between}\backslash\text{textbetween}$
 21018 $\backslash\text{let}\backslash\text{nless}\backslash\text{textnless}$
 21019 $\backslash\text{let}\backslash\text{ngtr}\backslash\text{textngtr}$
 21020 $\backslash\text{let}\backslash\text{nleq}\backslash\text{textnleq}$
 21021 $\backslash\text{let}\backslash\text{ngeq}\backslash\text{textngeq}$
 21022 $\backslash\text{let}\backslash\text{lesssim}\backslash\text{textlessim}$
 21023 $\backslash\text{let}\backslash\text{gtrsim}\backslash\text{textgtrsim}$
 21024 $\backslash\text{let}\backslash\text{nlesssim}\backslash\text{textnlessim}$
 21025 $\backslash\text{let}\backslash\text{ngtrsim}\backslash\text{textngtrsim}$
 21026 $\backslash\text{let}\backslash\text{lessgtr}\backslash\text{textlessgtr}$
 21027 $\backslash\text{let}\backslash\text{gtrless}\backslash\text{textgtrless}$
 21028 $\backslash\text{let}\backslash\text{ngtrless}\backslash\text{textngtrless}$
 21029 $\backslash\text{let}\backslash\text{nlessgtr}\backslash\text{textnlessgtr}$
 21030 $\backslash\text{let}\backslash\text{prec}\backslash\text{textprec}$
 21031 $\backslash\text{let}\backslash\text{succ}\backslash\text{textsucc}$
 21032 $\backslash\text{let}\backslash\text{preccurlyeq}\backslash\text{textpreccurlyeq}$
 21033 $\backslash\text{let}\backslash\text{succcurlyeq}\backslash\text{textsucccurlyeq}$
 21034 $\backslash\text{let}\backslash\text{precsim}\backslash\text{textprecsim}$
 21035 $\backslash\text{let}\backslash\text{nprecsim}\backslash\text{textnprecsim}$
 21036 $\backslash\text{let}\backslash\text{succsim}\backslash\text{textsuccsim}$
 21037 $\backslash\text{let}\backslash\text{nsuccsim}\backslash\text{textnsuccsim}$
 21038 $\backslash\text{let}\backslash\text{nprec}\backslash\text{textnprec}$
 21039 $\backslash\text{let}\backslash\text{nsucc}\backslash\text{textnsucc}$
 21040 $\backslash\text{let}\backslash\text{subset}\backslash\text{textsubset}$
 21041 $\backslash\text{let}\backslash\text{supset}\backslash\text{textsupset}$
 21042 $\backslash\text{let}\backslash\text{nssubset}\backslash\text{textnssubset}$
 21043 $\backslash\text{let}\backslash\text{nsupset}\backslash\text{textnsupset}$
 21044 $\backslash\text{let}\backslash\text{subseteq}\backslash\text{textsubseteq}$
 21045 $\backslash\text{let}\backslash\text{supseteq}\backslash\text{textsupseteq}$
 21046 $\backslash\text{let}\backslash\text{nsubseteq}\backslash\text{textnsubseteq}$
 21047 $\backslash\text{let}\backslash\text{nsupseteq}\backslash\text{textnsupseteq}$
 21048 $\backslash\text{let}\backslash\text{subsetneq}\backslash\text{textsubsetneq}$
 21049 $\backslash\text{let}\backslash\text{supsetneq}\backslash\text{textsupsetneq}$
 21050 $\backslash\text{let}\backslash\text{cupdot}\backslash\text{textcupdot}$
 21051 $\backslash\text{let}\backslash\text{cupplus}\backslash\text{textcupplus}$
 21052 $\backslash\text{let}\backslash\text{sqsubset}\backslash\text{textsqssubset}$
 21053 $\backslash\text{let}\backslash\text{nsqsubset}\backslash\text{textnsqsubset}$
 21054 $\backslash\text{let}\backslash\text{sqsupset}\backslash\text{textsqsupset}$
 21055 $\backslash\text{let}\backslash\text{nsqsupset}\backslash\text{textnsqsupset}$
 21056 $\backslash\text{let}\backslash\text{sqsubseq}\backslash\text{textsqssubseq}$
 21057 $\backslash\text{let}\backslash\text{nsqsubseq}\backslash\text{textnsqsubseq}$
 21058 $\backslash\text{let}\backslash\text{sqsupseteq}\backslash\text{textsqsupseteq}$
 21059 $\backslash\text{let}\backslash\text{nsqsupseteq}\backslash\text{textnsqsupseteq}$
 21060 $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqqcap}$
 21061 $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqqcup}$
 21062 $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$
 21063 $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$
 21064 $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$
 21065 $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$

21066 \let\odot\textodot
 21067 \let\circledcirc\textcircledcirc
 21068 \let\circledast\textcircledast
 21069 \let\circleddash\textcircleddash
 21070 \let\boxplus\textboxplus
 21071 \let\boxminus\textboxminus
 21072 \let\boxtimes\textboxtimes
 21073 \let\boxdot\textboxdot
 21074 \let\vdash\textvdash
 21075 \let\dashv\textdashv
 21076 \let\ndashv\textndashv
 21077 \let\top\texttop
 21078 \let\ndownvdash\textndownvdash
 21079 \let\bot\textbot
 21080 \let\nupvdash\textnupvdash
 21081 \let\vDash\textvDash
 21082 \let\Vdash\textVdash
 21083 \let\Vvdash\textVvdash
 21084 \let\NVdash\textNVdash
 21085 \let\VDash\textVDash
 21086 \let\nvdash\textnvdash
 21087 \let\NVdash\textNVdash
 21088 \let\NVdash\textNVdash
 21089 \let\NVdash\textNVdash
 21090 \let\lhd\textlhd
 21091 \let\rhd\textrhd
 21092 \let\unlhd\textunlhd
 21093 \let\unrhd\textunrhd
 21094 \let\multimapdotbothA\textmultimapdotbothA
 21095 \let\multimapdotbothB\textmultimapdotbothB
 21096 \let\multimap\textmultimap
 21097 \let\veebar\textveebar
 21098 \let\barwedge\textbarwedge
 21099 \let\star\textstar
 21100 \let\divideontimes\textdivideontimes
 21101 \let\bowtie\textbowtie
 21102 \let\ltimes\textltimes
 21103 \let\rtimes\textrtimes
 21104 \let\leftthreetimes\textleftthreetimes
 21105 \let\rightthreetimes\textrightthreetimes
 21106 \let\backsimeq\textbacksimeq
 21107 \let\Nbacksimeq\textNbacksimeq
 21108 \let\curlyvee\textcurlyvee
 21109 \let\curlywedge\textcurlywedge
 21110 \let\Subset\textSubset
 21111 \let\NSubset\textNSubset
 21112 \let\Supset\textSupset
 21113 \let\NSupset\textNSupset
 21114 \let\Cap\textCap
 21115 \let\Cup\textCup

21116 `\let\pitchfork\textpitchfork`
 21117 `\let\lessdot\textlessdot`
 21118 `\let\gtrdot\textgtrdot`
 21119 `\let\lll\textlll`
 21120 `\let\ggg\textggg`
 21121 `\let\lesseqgtr\textlesseqgtr`
 21122 `\let\gtreqless\textgtreqless`
 21123 `\let\curlyeqprec\textcurlyeqprec`
 21124 `\let\ncurlyeqprec\textncurlyeqprec`
 21125 `\let\curlyeqsucc\textcurlyeqsucc`
 21126 `\let\ncurlyeqsucc\textncurlyeqsucc`
 21127 `\let\preccurlyeq\textnpreccurlyeq`
 21128 `\let\nsucccurlyeq\textnsucccurlyeq`
 21129 `\let\qsubseteq\textnqsubseteq`
 21130 `\let\qsupseteq\textnqsupseteq`
 21131 `\let\sqsubsetneq\textsqsubsetneq`
 21132 `\let\sqsupsetneq\textsqsupsetneq`
 21133 `\let\lnsim\textlnsim`
 21134 `\let\gnsim\textgnsim`
 21135 `\let\precnsim\textprecnsim`
 21136 `\let\succnsim\textsuccnsim`
 21137 `\let\ntriangleleft\textntriangleleft`
 21138 `\let\ntriangleright\textntriangleright`
 21139 `\let\ntrianglelefteq\textntrianglelefteq`
 21140 `\let\ntrianglerighteq\textntrianglerighteq`
 21141 `\let\vdots\textvdots`
 21142 `\let\cdots\textcdots`
 21143 `\let\udots\textudots`
 21144 `\let\ddots\textddots`
 21145 `\let\barin\textbarin`
 21146 `\let\diameter\textdiameter`
 21147 `\let\backneg\textbackneg`
 21148 `\let\wasylounge\textwasylounge`
 21149 `\let\invbackneg\textinvbackneg`
 21150 `\let\clock\textclock`
 21151 `\let\ulcorner\textulcorner`
 21152 `\let\urcorner\texturcorner`
 21153 `\let\llcorner\textllcorner`
 21154 `\let\lrcorner\textlrcorner`
 21155 `\let\frown\textfrown`
 21156 `\let\smile\textsmile`
 21157 `\let\Keyboard\textKeyboard`
 21158 `\let\langle\textlangle`
 21159 `\let\rangle\textrangle`
 21160 `\let\APLinv\textAPLinv`
 21161 `\let\Tumbler\textTumbler`
 21162 `\let\notslash\textnotslash`
 21163 `\let\notbackslash\textnotbackslash`
 21164 `\let\boxbackslash\textboxbackslash`
 21165 `\let\APLleftarrowbox\textAPLleftarrowbox`

21166 \let\APLrightarrowbox\textAPLrightarrowbox
 21167 \let\APLuparrowbox\textAPLuparrowbox
 21168 \let\APLdownarrowbox\textAPLdownarrowbox
 21169 \let\APLinput\textAPLinput
 21170 \let\Request\textRequest
 21171 \let\Beam\textBeam
 21172 \let\hexagon\texthexagon
 21173 \let\APLbox\textAPLbox
 21174 \let\ForwardToIndex\textForwardToIndex
 21175 \let\RewindToIndex\textRewindToIndex
 21176 \let\bbslash\textbbslash
 21177 \let\CircledA\textCircledA
 21178 \let\CleaningF\textCleaningF
 21179 \let\CleaningFF\textCleaningFF
 21180 \let\CleaningP\textCleaningP
 21181 \let\CleaningPP\textCleaningPP
 21182 \let\CuttingLine\textCuttingLine
 21183 \let\UParrow\textUParrow
 21184 \let\bigtriangleup\textbigtriangleup
 21185 \let\Forward\textForward
 21186 \let\triangleright\texttriangleright
 21187 \let\RHD\textRHD
 21188 \let\DOWNarrow\textDOWNarrow
 21189 \let\bigtriangledown\textbigtriangledown
 21190 \let\Rewind\textRewind
 21191 \let\triangleleft\texttriangleleft
 21192 \let\LHD\textLHD
 21193 \let\diamond\textdiamond
 21194 \let\lozenge\textlozenge
 21195 \let\LEFTCIRCLE\textLEFTCIRCLE
 21196 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 21197 \let\openbullet\textopenbullet
 21198 \let\boxbar\textboxbar
 21199 \let\bigcircle\textbigcircle
 21200 \let\Cloud\textCloud
 21201 \let\FiveStar\textFiveStar
 21202 \let\FiveStarOpen\textFiveStarOpen
 21203 \let\Phone\textPhone
 21204 \let\boxempty\textboxempty
 21205 \let\Checkedbox\textCheckedbox
 21206 \let\Crossedbox\textCrossedbox
 21207 \let\Coffeecup\textCoffeecup
 21208 \let\HandCuffLeft\textHandCuffLeft
 21209 \let\HandCuffRight\textHandCuffRight
 21210 \let\HandLeft\textHandLeft
 21211 \let\HandRight\textHandRight
 21212 \let\Radioactivity\textRadioactivity
 21213 \let\Biohazard\textBiohazard
 21214 \let\Ankh\textAnkh
 21215 \let\YinYang\textYinYang

21216 \let\frownie\textfrownie
 21217 \let\smiley\textsmiley
 21218 \let\blacksmiley\textblacksmiley
 21219 \let\sun\textsun
 21220 \let\leftmoon\textleftmoon
 21221 \let\rightmoon\textrightmoon
 21222 \let\mercury\textmercury
 21223 \let\earth\textearth
 21224 \let\male\textmale
 21225 \let\jupiter\textjupiter
 21226 \let\saturn\textsaturn
 21227 \let\uranus\texturanus
 21228 \let\neptune\textneptune
 21229 \let\pluto\textpluto
 21230 \let\aries\textaries
 21231 \let\taurus\texttaurus
 21232 \let\gemini\textgemini
 21233 \let\cancer\textcancer
 21234 \let\leo\textleo
 21235 \let\virgo\textvirgo
 21236 \let\libra\textlibra
 21237 \let\scorpio\textscorpio
 21238 \let\sagittarius\textsagittarius
 21239 \let\capricornus\textcapricornus
 21240 \let\aquarius\textaquarius
 21241 \let\pisces\textpisces
 21242 \let\quarternote\textquarternote
 21243 \let\twonotes\texttwonotes
 21244 \let\sixteenthnote\textsixteenthnote
 21245 \let\flat\textflat
 21246 \let\natural\textnatural
 21247 \let\sharp\textsharp
 21248 \let\recycle\textrecycle
 21249 \let\Wheelchair\textWheelchair
 21250 \let\Flag\textFlag
 21251 \let\MineSign\textMineSign
 21252 \let\ds military\textds military
 21253 \let\ds medical\textds medical
 21254 \let\ds juridical\textds juridical
 21255 \let\ds chemical\textds chemical
 21256 \let\ds biological\textds biological
 21257 \let\ds commercial\textds commercial
 21258 \let\manstar\textmanstar
 21259 \let\danger\textdanger
 21260 \let\FemaleFemale\textFemaleFemale
 21261 \let\MaleMale\textMaleMale
 21262 \let\FemaleMale\textFemaleMale
 21263 \let\Hermaphrodite\textHermaphrodite
 21264 \let\Neutral\textNeutral
 21265 \let\hexstar\texthexstar

21266 \let\SunCloud\textSunCloud
 21267 \let\Rain\textRain
 21268 \let\noway\textnoway
 21269 \let\Mountain\textMountain
 21270 \let\Tent\textTent
 21271 \let\ScissorRight\textScissorRight
 21272 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 21273 \let\ScissorHollowRight\textScissorHollowRight
 21274 \let\PhoneHandset\textPhoneHandset
 21275 \let\Tape\textTape
 21276 \let\Plane\textPlane
 21277 \let\Envelope\textEnvelope
 21278 \let\Peace\textPeace
 21279 \let\WritingHand\textWritingHand
 21280 \let\PencilRightDown\textPencilRightDown
 21281 \let\PencilRight\textPencilRight
 21282 \let\PencilRightUp\textPencilRightUp
 21283 \let\NibRight\textNibRight
 21284 \let\NibSolidRight\textNibSolidRight
 21285 \let\Checkmark\textCheckmark
 21286 \let\CheckmarkBold\textCheckmarkBold
 21287 \let\XSolid\textXSolid
 21288 \let\XSolidBold\textXSolidBold
 21289 \let\XSolidBrush\textXSolidBrush
 21290 \let\PlusOutline\textPlusOutline
 21291 \let\Plus\textPlus
 21292 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 21293 \let\PlusCenterOpen\textPlusCenterOpen
 21294 \let\Cross\textCross
 21295 \let\CrossOpenShadow\textCrossOpenShadow
 21296 \let\CrossOutline\textCrossOutline
 21297 \let\CrossMaltese\textCrossMaltese
 21298 \let\DavidStar\textDavidStar
 21299 \let\FourAsterisk\textFourAsterisk
 21300 \let\JackStar\textJackStar
 21301 \let\JackStarBold\textJackStarBold
 21302 \let\ClowerTips\textClowerTips
 21303 \let\FourStar\textFourStar
 21304 \let\FourStarOpen\textFourStarOpen
 21305 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 21306 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 21307 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 21308 \let\FiveStarOutline\textFiveStarOutline
 21309 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 21310 \let\FiveStarConvex\textFiveStarConvex
 21311 \let\FiveStarShadow\textFiveStarShadow
 21312 \let\AsteriskBold\textAsteriskBold
 21313 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 21314 \let\EightStarTaper\textEightStarTaper
 21315 \let\EightStarConvex\textEightStarConvex

21316 \let\SixStar\textSixStar
 21317 \let\EightStar\textEightStar
 21318 \let\EightStarBold\textEightStarBold
 21319 \let\TwelveStar\textTwelveStar
 21320 \let\SixteenStarLight\textSixteenStarLight
 21321 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 21322 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 21323 \let\Asterisk\textAsterisk
 21324 \let\SixFlowerAlternate\textSixFlowerAlternate
 21325 \let\FiveFlowerPetal\textFiveFlowerPetal
 21326 \let\FiveFlowerOpen\textFiveFlowerOpen
 21327 \let\EightFlowerPetal\textEightFlowerPetal
 21328 \let\SunshineOpenCircled\textSunshineOpenCircled
 21329 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 21330 \let\SnowflakeChevron\textSnowflakeChevron
 21331 \let\Snowflake\textSnowflake
 21332 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 21333 \let\Sparkle\textSparkle
 21334 \let\SparkleBold\textSparkleBold
 21335 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 21336 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 21337 \let\EightAsterisk\textEightAsterisk
 21338 \let\CircleShadow\textCircleShadow
 21339 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 21340 \let\SquareTopRight\textSquareTopRight
 21341 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 21342 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 21343 \let\DiamondSolid\textDiamondSolid
 21344 \let\RectangleThin\textRectangleThin
 21345 \let\Rectangle\textRectangle
 21346 \let\RectangleBold\textRectangleBold
 21347 \let\perp\textperp
 21348 \let\notperp\textnotperp
 21349 \let\veedot\textveedot
 21350 \let\wedgedot\textwedgedot
 21351 \let\leftspoon\textleftspoon
 21352 \let\lbrackdbl\textlbrackdbl
 21353 \let\rbrackdbl\textrbrackdbl
 21354 \let\circlearrowleft\textcirclearrowleft
 21355 \let\circlearrowright\textcirclearrowright
 21356 \let\longleftarrow\textlongleftarrow
 21357 \let\longrightarrow\textlongrightarrow
 21358 \let\longlefttrightarrow\textlonglefttrightarrow
 21359 \let\Longleftarrow\textLongleftarrow
 21360 \let\Longrightarrow\textLongrightarrow
 21361 \let\Longlefttrightarrow\textLonglefttrightarrow
 21362 \let\longmapsto\textlongmapsto
 21363 \let\Longmapsfrom\textLongmapsfrom
 21364 \let\Longmapsto\textLongmapsto
 21365 \let\nwsearrow\textnwsearrow

21366 \let\neswarrow\textneswarrow
 21367 \let\lhooknarrow\textlhooknarrow
 21368 \let\rhooknearrow\extrhooknearrow
 21369 \let\lhooksearrow\textlhooksearrow
 21370 \let\rhookswarrow\extrhookswarrow
 21371 \let\leadsto\textleadsto
 21372 \let\rcurvearrowne\extrcurvearrowne
 21373 \let\lcurvearrowse\textlcurvearrowse
 21374 \let\lcurvearrowsw\textlcurvearrowsw
 21375 \let\rcurvearrowse\extrcurvearrowse
 21376 \let\lcurvearrowdown\textlcurvearrowdown
 21377 \let\rcurvearrowdown\extrcurvearrowdown
 21378 \let\rcurvearrowleft\extrcurvearrowleft
 21379 \let\rcurvearrowright\extrcurvearrowright
 21380 \let\leftrightharpoon\textleftrightharpoon
 21381 \let\rightrightharpoon\extrightrightharpoon
 21382 \let\updownharpoonleftright\textupdownharpoonleftright
 21383 \let\updownharpoonleftright\textupdownharpoonleftright
 21384 \let\leftleftharpoons\textleftleftharpoons
 21385 \let\upupharpoons\textupupharpoons
 21386 \let\rightrightharpoons\extrightrightharpoons
 21387 \let\downdownharpoons\textdowndownharpoons
 21388 \let\leftbarharpoon\textleftbarharpoon
 21389 \let\rightbarharpoon\extrightbarharpoon
 21390 \let\barleftharpoon\textbarleftharpoon
 21391 \let\barrightharpoon\textbarrightharpoon
 21392 \let\updownharpoons\textupdownharpoons
 21393 \let\downupharpoons\textdownupharpoons
 21394 \let\moo\textmoo
 21395 \let\llparenthesis\textllparenthesis
 21396 \let\rrparenthesis\extrrparenthesis
 21397 \let\invdiameter\textinvdiameter
 21398 \let\obar\textobar
 21399 \let\obslash\textobslash
 21400 \let\obot\textobot
 21401 \let\NoChemicalCleaning\textNoChemicalCleaning
 21402 \let\olessthan\textolessthan
 21403 \let\ogreaterthan\textogreaterthan
 21404 \let\boxslash\textboxslash
 21405 \let\boxbslash\textboxbslash
 21406 \let\boxast\textboxast
 21407 \let\boxcircle\textboxcircle
 21408 \let\boxbox\textboxbox
 21409 \let\Valve\textValve
 21410 \let\multimapboth\textmultimapboth
 21411 \let\shuffle\textshuffle
 21412 \let\uplus\textuplus
 21413 \let\bigdoublewedge\textbigdoublewedge
 21414 \let\bigdoublevee\textbigdoublevee
 21415 \let\Join\textJoin

21416 $\backslash\text{let}\backslash\text{fatsemi}\backslash\text{textfatsemi}$
 21417 $\backslash\text{let}\backslash\text{circplus}\backslash\text{textcircplus}$
 21418 $\backslash\text{let}\backslash\text{minusdot}\backslash\text{textminusdot}$
 21419 $\backslash\text{let}\backslash\text{dottimes}\backslash\text{textdottimes}$
 21420 $\backslash\text{let}\backslash\text{dtimes}\backslash\text{textdtimes}$
 21421 $\backslash\text{let}\backslash\text{odiv}\backslash\text{textodiv}$
 21422 $\backslash\text{let}\backslash\text{invneg}\backslash\text{textinvneg}$
 21423 $\backslash\text{let}\backslash\text{sqdoublecap}\backslash\text{textsquaddoublecap}$
 21424 $\backslash\text{let}\backslash\text{capdot}\backslash\text{textcapdot}$
 21425 $\backslash\text{let}\backslash\text{sqdoublecup}\backslash\text{textsquaddoublecup}$
 21426 $\backslash\text{let}\backslash\text{doublewedge}\backslash\text{textdoublewedge}$
 21427 $\backslash\text{let}\backslash\text{doublevee}\backslash\text{textdoublevee}$
 21428 $\backslash\text{let}\backslash\text{doublebarwedge}\backslash\text{textdoublebarwedge}$
 21429 $\backslash\text{let}\backslash\text{veedoublebar}\backslash\text{textveedoublebar}$
 21430 $\backslash\text{let}\backslash\text{eqdot}\backslash\text{texreqdot}$
 21431 $\backslash\text{let}\backslash\text{neqdot}\backslash\text{textneqdot}$
 21432 $\backslash\text{let}\backslash\text{coloncolonequals}\backslash\text{textcoloncolonequals}$
 21433 $\backslash\text{let}\backslash\text{leqslant}\backslash\text{textleqslant}$
 21434 $\backslash\text{let}\backslash\text{nleqslant}\backslash\text{textnleqslant}$
 21435 $\backslash\text{let}\backslash\text{geqslant}\backslash\text{textgeqslant}$
 21436 $\backslash\text{let}\backslash\text{ngeqslant}\backslash\text{textngeqslant}$
 21437 $\backslash\text{let}\backslash\text{lessapprox}\backslash\text{textlessapprox}$
 21438 $\backslash\text{let}\backslash\text{nlessapprox}\backslash\text{textnlessapprox}$
 21439 $\backslash\text{let}\backslash\text{gtrapprox}\backslash\text{textgtrapprox}$
 21440 $\backslash\text{let}\backslash\text{ngtrapprox}\backslash\text{textngtrapprox}$
 21441 $\backslash\text{let}\backslash\text{lneq}\backslash\text{textlneq}$
 21442 $\backslash\text{let}\backslash\text{gneq}\backslash\text{textgneq}$
 21443 $\backslash\text{let}\backslash\text{lnapprox}\backslash\text{textlnapprox}$
 21444 $\backslash\text{let}\backslash\text{gnapprox}\backslash\text{textgnapprox}$
 21445 $\backslash\text{let}\backslash\text{lesseqqgtr}\backslash\text{textlesseqqgtr}$
 21446 $\backslash\text{let}\backslash\text{gtreqqlless}\backslash\text{textgtreqqlless}$
 21447 $\backslash\text{let}\backslash\text{eqslantless}\backslash\text{texteqslantless}$
 21448 $\backslash\text{let}\backslash\text{eqslantgtr}\backslash\text{texteqslantgtr}$
 21449 $\backslash\text{let}\backslash\text{leftslice}\backslash\text{textleftslice}$
 21450 $\backslash\text{let}\backslash\text{rightslice}\backslash\text{textrightslice}$
 21451 $\backslash\text{let}\backslash\text{preceq}\backslash\text{textpreceq}$
 21452 $\backslash\text{let}\backslash\text{npreceq}\backslash\text{textnpreceq}$
 21453 $\backslash\text{let}\backslash\text{succeq}\backslash\text{textsucceq}$
 21454 $\backslash\text{let}\backslash\text{nsucceq}\backslash\text{textnsucceq}$
 21455 $\backslash\text{let}\backslash\text{precneq}\backslash\text{textprecneq}$
 21456 $\backslash\text{let}\backslash\text{succneq}\backslash\text{textsuccneq}$
 21457 $\backslash\text{let}\backslash\text{preceqq}\backslash\text{textpreceqq}$
 21458 $\backslash\text{let}\backslash\text{npreceqq}\backslash\text{textnpreceqq}$
 21459 $\backslash\text{let}\backslash\text{succeqq}\backslash\text{textsucceqq}$
 21460 $\backslash\text{let}\backslash\text{nsucceqq}\backslash\text{textnsucceqq}$
 21461 $\backslash\text{let}\backslash\text{precneqq}\backslash\text{textprecneqq}$
 21462 $\backslash\text{let}\backslash\text{succneqq}\backslash\text{textsuccneqq}$
 21463 $\backslash\text{let}\backslash\text{precapprox}\backslash\text{textprecapprox}$
 21464 $\backslash\text{let}\backslash\text{nprecapprox}\backslash\text{textnprecapprox}$
 21465 $\backslash\text{let}\backslash\text{succapprox}\backslash\text{textsuccapprox}$

21466 \let\nsuccapprox\textnsuccapprox
 21467 \let\precnapprox\textprecnapprox
 21468 \let\succnapprox\textsuccnapprox
 21469 \let\subseteqq\textsubseteqq
 21470 \let\nsubseteqq\textnsubseteqq
 21471 \let\supseteqq\textsupseteqq
 21472 \let\nsupseteqq\textnsupseteqq
 21473 \let\dashV\textdashV
 21474 \let\ndashV\textndashV
 21475 \let\Dashv\textDashv
 21476 \let\NDashv\textNDashv
 21477 \let\DashV\textDashV
 21478 \let\NDashV\textNDashV
 21479 \let\downmodels\textdownmodels
 21480 \let\ndownmodels\textndownmodels
 21481 \let\upmodels\textupmodels
 21482 \let\nupmodels\textnupmodels
 21483 \let\upspoon\textupspoon
 21484 \let\interleave\textinterleave
 21485 \let\slash\textslash
 21486 \let\pentagon\textpentagon
 21487 \let\varhexagon\textvarhexagon
 21488 \let\jinferior\textjinferior
 21489 \let\slashdiv\textslashdiv
 21490 \let\fivedots\textfivedots
 21491 \let\oo\textoo
 21492 \let\GaPa\textGaPa
 21493 \let\HaPa\textHaPa
 21494 \let\ViPa\textViPa
 21495 \let\AcPa\textAcPa
 21496 \let\SePa\textSePa
 21497 \let\ZwPa\textZwPa
 21498 \let\fullnote\textfullnote
 21499 \let\halfnote\texthalfnote
 21500 \let\Vier\textVier
 21501 \let\Acht\textAcht
 21502 \let\Sech\textSech
 21503 \let\Zwdr\textZwdr
 21504 \let\Mundus\textMundus
 21505 \let\Moon\textMoon
 21506 \let\ManFace\textManFace
 21507 \let\WomanFace\textWomanFace
 21508 \let\Fax\textFax
 21509 \let\Fire\textFire
 21510 \let\Bicycle\textBicycle
 21511 \let\Gentsroom\textGentsroom
 21512 \let\Ladiesroom\textLadiesroom
 21513 \let\ccnc\textccnc
 21514 \let\ccsa\textccsa
 21515 \let\Info\textInfo

21516 \let\CESign\textCESign
 21517 \let\neg\textneg
 21518 \let\times\texttimes
 21519 \let\div\textdiv
 21520 \let\pm\textpm
 21521 \let\cdot\textcdot
 21522 }% \psdmapshortnames
 21523 \newcommand*{\psdaliasnames}{%
 21524 \let\epsdice\HyPsd@DieFace
 21525 \let\fcdice\HyPsd@DieFace
 21526 \let\MoonPha\HyPsd@MoonPha
 21527 \let\mathdollar\textdollar
 21528 \let\EyesDollar\textdollar
 21529 \let\binampersand\textampersand
 21530 \let\with\textampersand
 21531 \let\mathunderscore\textunderscore
 21532 \let\textvertline\textbar
 21533 \let\mathsterling\textsterling
 21534 \let\pounds\textsterling
 21535 \let\brokenvert\textbrokenbar
 21536 \let\mathsection\textsection
 21537 \let\S\textsection
 21538 \let\mathparagraph\textparagraph
 21539 \let\MultiplicationDot\textperiodcentered
 21540 \let\Squaredot\textperiodcentered
 21541 \let\vartimes\textmultiply
 21542 \let\MVMMultiplication\textmultiply
 21543 \let\eth\dh
 21544 \let\crossd\textcrd
 21545 \let\textbard\textcrd
 21546 \let\bard\textcrd
 21547 \let\textcrh\texthbar
 21548 \let\crossh\texthbar
 21549 \let\planck\texthbar
 21550 \let\eng\ng
 21551 \let\engma\ng
 21552 \let\crossb\textcrb
 21553 \let\textbarb\textcrb
 21554 \let\barb\textcrb
 21555 \let\Florin\textflorin
 21556 \let\hv\texthvl
 21557 \let\hausak\textthk
 21558 \let\crossnilambda\textcrlambda
 21559 \let\barlambda\textcrlambda
 21560 \let\lambdabar\textcrlambda
 21561 \let\lambdash\textcrlambda
 21562 \let\textnrleg\textPUnrleg
 21563 \let\textpipevar\textpipe
 21564 \let\textdoublepipevar\textdoublepipe
 21565 \let\textdoublebarpipevar\textdoublebarpipe

21566 \let\textcrg\textgslash
 21567 \let\textdblig\textPUdblig
 21568 \let\textqplig\textPUqplig
 21569 \let\textcentoldstyle\textslashc
 21570 \let\textbarc\textslashc
 21571 \let\inva\textturna
 21572 \let\vara\textscripta
 21573 \let\invscripta\textturnscripta
 21574 \let\rotvara\textturnscripta
 21575 \let\hookb\texthtb
 21576 \let\hausab\texthtb
 21577 \let\varopeno\textopeno
 21578 \let\curlyc\textctc
 21579 \let\taild\textrtaild
 21580 \let\hookd\texthtd
 21581 \let\hausad\texthtd
 21582 \let\er\textrhooschwa
 21583 \let\epsi\textniepsilon
 21584 \let\hookrepsilon\textrhoorepsilon
 21585 \let\closedrepsilon\textcloserepsilon
 21586 \let\barj\textbardotlessj
 21587 \let\hookg\texthtg
 21588 \let\varg\textscriptg
 21589 \let\vod\textipagamma
 21590 \let\invh\textturnh
 21591 \let\udesc\textturnh
 21592 \let\hookh\texthth
 21593 \let\voicedh\texthth
 21594 \let\hookheng\texththeng
 21595 \let\ibar\textbari
 21596 \let\vari\textniiota
 21597 \let\tildel\textltilde
 21598 \let\latfric\textbeltl
 21599 \let\taill\textrtail
 21600 \let\lz\textlyoghlig
 21601 \let\invm\textturnm
 21602 \let\rotm\textturnm
 21603 \let\legm\textturnmrleg
 21604 \let\labdentals\textltailm
 21605 \let\emgma\textltailm
 21606 \let\nj\textltailn
 21607 \let\enya\textltailn
 21608 \let\tailn\textrtailn
 21609 \let\closedniomega\textcloseomega
 21610 \let\varomega\textcloseomega
 21611 \let\invr\textturnr
 21612 \let\rotr\textturnr
 21613 \let\invlegr\textturnlonglegr
 21614 \let\tailinvr\textturnrrtail
 21615 \let\legr\textlonglegr

21616 \let\tailr\textrtailr
 21617 \let\flapr\textfishhookr
 21618 \let\flap\textfishhookr
 21619 \let\tails\textrtails
 21620 \let\curlyesh\textctesh
 21621 \let\clickt\textturnt
 21622 \let\tailt\textrtailt
 21623 \let\ubar\textbaru
 21624 \let\rotOmega\textniupsilon
 21625 \let\invv\textturnv
 21626 \let\pwedge\textturnv
 21627 \let\invw\textturnw
 21628 \let\rotw\textturnw
 21629 \let\invy\textturny
 21630 \let\roty\textturny
 21631 \let\tailz\textrtailz
 21632 \let\curlyz\textctz
 21633 \let\curlyyogh\textctyogh
 21634 \let\ejective\textglotstop
 21635 \let\glottal\textglotstop
 21636 \let\reveject\textrevglotstop
 21637 \let\clickc\textstretchc
 21638 \let\textstretchcvar\textstretchc
 21639 \let\clickb\textbullseye
 21640 \let\textObullseye\textbullseye
 21641 \let\textctjvar\textctj
 21642 \let\textturnsck\textturnk
 21643 \let\dz\textdzlig
 21644 \let\tesh\textteshlig
 21645 \let\digamma\textdigammagreek
 21646 \let\hardsign\cyrhrdsn
 21647 \let\softsign\cyrsoftsn
 21648 \let\hebsin\hebshin
 21649 \let\textsck\textPUscck
 21650 \let\textscm\textPUscm
 21651 \let\textscp\textPUscp
 21652 \let\textrevscr\textPUrevscr
 21653 \let\textrhoaka\textPURhooka
 21654 \let\textrhooke\textPURhooke
 21655 \let\textrhookepsilon\textPURhookepsilon
 21656 \let\textrhoookopeno\textPURhookopeno
 21657 \let\textdoublevertline\textbardbl
 21658 \let\dag\textdagger
 21659 \let\ddagger\textdaggerdbl
 21660 \let\ddag\textdaggerdbl
 21661 \let\mathellipsis\textellipsis
 21662 \let\EurDig\texteuro
 21663 \let\EURdig\texteuro
 21664 \let\EurHv\texteuro
 21665 \let\EURhv\texteuro

21666 \let\EurCr\texteuro
 21667 \let\EURcr\texteuro
 21668 \let\EurTm\texteuro
 21669 \let\EURtm\texteuro
 21670 \let\Eur\texteuro
 21671 \let\Denarius\textDeleatur
 21672 \let\agemO\textmho
 21673 \let\EstimatedSign\textestimated
 21674 \let\Ecommerce\textestimated
 21675 \let\bindnasrepma\textinvamp
 21676 \let\parr\textinvamp
 21677 \let\MVRightArrow\textrightarrow
 21678 \let\MVRightarrow\textrightarrow
 21679 \let\MVArrowDown\textdownarrow
 21680 \let\Force\textdownarrow
 21681 \let\textglobrise\textnearrow
 21682 \let\textglobfall\textsearrow
 21683 \let\Lightning\textlightning
 21684 \let\Conclusion\textRightarrow
 21685 \let\dashedleftarrow\textdashleftarrow
 21686 \let\dashedrightarrow\textdashrightarrow
 21687 \let\varnothing\textemptyset
 21688 \let\owns\textni
 21689 \let\notni\textnotowner
 21690 \let\varprop\textpropto
 21691 \let\varangle\textsphericalangle
 21692 \let\Anglesign\textsphericalangle
 21693 \let\AngleSign\textsphericalangle
 21694 \let\notdivides\textnmid
 21695 \let\varowedge\textowedge
 21696 \let\varovee\textovee
 21697 \let\varint\textint
 21698 \let\varoint\textoint
 21699 \let\downtherefore\textbecause
 21700 \let\textdotdiv\textdotminus
 21701 \let\AC\textsim
 21702 \let\wreath\textwr
 21703 \let\nthickapprox\textnapprox
 21704 \let\VHF\texttriplesim
 21705 \let\notasymp\textnasyp
 21706 \let\Doteq\textdoteqdot
 21707 \let\corresponds\texthateq
 21708 \let\Corresponds\texthateq
 21709 \let\nequal\textneq
 21710 \let\Congruent\textequiv
 21711 \let\NotCongruent\textnequiv
 21712 \let\notequiv\textnequiv
 21713 \let\LessOrEqual\textleq
 21714 \let\LargerOrEqual\textgeq
 21715 \let\apprle\textlessim

21716 \let\apprge\textgtrsim
 21717 \let\varoplus\textoplus
 21718 \let\varominus\textominus
 21719 \let\varotimes\textotimes
 21720 \let\varoslash\textoslash
 21721 \let\varodot\textodot
 21722 \let\ocirc\textcircledcirc
 21723 \let\varocircle\textcircledcirc
 21724 \let\varoast\textcircledast
 21725 \let\oasterisk\textcircledast
 21726 \let\rightvdash\textvdash
 21727 \let\leftvdash\textdashv
 21728 \let\leftvdash\textndashv
 21729 \let\downvdash\texttop
 21730 \let\upvdash\textbot
 21731 \let\nperp\textnupvdash
 21732 \let\models\textvDash
 21733 \let\models\textvDash
 21734 \let\models\textVdash
 21735 \let\models\textVdash
 21736 \let\models\textnvDash
 21737 \let\models\textnvDash
 21738 \let\models\textnvDash
 21739 \let\models\textnvDash
 21740 \let\models\textnVDash
 21741 \let\lessclosed\textlhd
 21742 \let\gtrclosed\textrhd
 21743 \let\leqclosed\textunlhd
 21744 \let\trianglelefteq\textunlhd
 21745 \let\geqclosed\textunrhd
 21746 \let\trianglerighteq\textunrhd
 21747 \let\Bowtie\textbowtie
 21748 \let\varcurlyvee\textcurlyvee
 21749 \let\varcurlywedge\textcurlywedge
 21750 \let\doublecap\textCap
 21751 \let\doublecup\textCup
 21752 \let\varsubsetneq\textsubsetneq
 21753 \let\varsubsetneq\textsubsetneq
 21754 \let\lessclosed\textntriangleleft
 21755 \let\ngtrclosed\textntriangleright
 21756 \let\Clocklogo\textclock
 21757 \let\ClockLogo\textclock
 21758 \let\baro\textstmaryrdbaro
 21759 \let\varparallelinv\textbbslash
 21760 \let\CleaningA\textCircledA
 21761 \let\Kutline\textCuttingLine
 21762 \let\CutLine\textCuttingLine
 21763 \let\Cutline\textCuttingLine
 21764 \let\MoveUp\textUParrow
 21765 \let\APLup\textbigtriangleup

21766 \let\Bleech\textbigtriangleup
 21767 \let\MoveDown\textDOWNarrow
 21768 \let\APLdown\textbigtriangledown
 21769 \let\Diamond\textdiamond
 21770 \let\varbigcirc\textbigcirc
 21771 \let\Telefon\textPhone
 21772 \let\Box\textboxempty
 21773 \let\CheckedBox\textCheckedbox
 21774 \let\XBox\textCrossedbox
 21775 \let\CrossedBox\textCrossedbox
 21776 \let\rightpointleft\textHandLeft
 21777 \let\leftpointright\textHandRight
 21778 \let\PointingHand\textHandRight
 21779 \let\Pointinghand\textHandRight
 21780 \let\Radiation\textRadioactivity
 21781 \let\Yinyang\textYinYang
 21782 \let\YingYang\textYinYang
 21783 \let\Yingyang\textYinYang
 21784 \let\Frowny\textfrownie
 21785 \let\Smiley\textsmiley
 21786 \let\Sun\textsun
 21787 \let\Mercury\textmercury
 21788 \let\textfemale\textPUfemale
 21789 \let\female\textPUfemale
 21790 \let\venus\textPUfemale
 21791 \let\Venus\textPUfemale
 21792 \let\Female\textPUfemale
 21793 \let\Earth\textearth
 21794 \let\mars\textmale
 21795 \let\Mars\textmale
 21796 \let\Male\textmale
 21797 \let\Jupiter\textjupiter
 21798 \let\Saturn\textsaturn
 21799 \let\Uranus\texturanus
 21800 \let\Neptune\textneptune
 21801 \let\Pluto\textpluto
 21802 \let\Aries\textaries
 21803 \let\Taurus\texttaurus
 21804 \let\Gemini\textgemini
 21805 \let\Cancer\textcancer
 21806 \let\Leo\textleo
 21807 \let\Virgo\textvirgo
 21808 \let\Libra\textlibra
 21809 \let\Scorpio\textscorpio
 21810 \let\Sagittarius\textsagittarius
 21811 \let\Capricorn\textcapricornus
 21812 \let\Aquarius\textaquarius
 21813 \let\Pisces\textpisces
 21814 \let\spadesuit\textspadesuitblack
 21815 \let\Heart\textheartsuitwhite

21816 \let\heartsuit\textheartsuitwhite
 21817 \let\diamondsuit\textdiamondsuitwhite
 21818 \let\clubsuit\textclubsuitblack
 21819 \let\eighthnote\textmusicalnote
 21820 \let\Recycling\textrecycle
 21821 \let\VarFlag\textFlag
 21822 \let\textxswup\textdsmilitary
 21823 \let\textuncrfemale\textPUuncrfemale
 21824 \let\Football\textSoccerBall
 21825 \let\CutLeft\textScissorRightBrokenBottom
 21826 \let\Cutright\textScissorRightBrokenBottom
 21827 \let\RightScissors\textScissorRight
 21828 \let\Leftscissors\textScissorRight
 21829 \let\Letter\textEnvelope
 21830 \let\Writinghand\textWritingHand
 21831 \let\checkmark\textCheckmark
 21832 \let\davidstar\textDavidStar
 21833 \let\llbracket\textlbrackdbl
 21834 \let\rrbracket\textrrbrackdbl
 21835 \let\RightTorque\textlcurvearrowdown
 21836 \let\Righttorque\textlcurvearrowdown
 21837 \let\LeftTorque\textrcurvearrowdown
 21838 \let\Lefttorque\textrcurvearrowdown
 21839 \let\textvarobar\textobar
 21840 \let\circledbslash\textobslash
 21841 \let\obackslash\textobslash
 21842 \let\varobslash\textobslash
 21843 \let\odplus\textobot
 21844 \let\varolessthan\textolessthan
 21845 \let\varogreaterthan\textogreaterthan
 21846 \let\divdot\textminusdot
 21847 \let\doublesqcap\textsquaddoublecap
 21848 \let\doublesqcup\textsquaddoublecup
 21849 \let\merge\textdoublevee
 21850 \let\leftVdash\textdashV
 21851 \let\leftVdash\textdashV
 21852 \let\leftmodels\textDashv
 21853 \let\leftmodels\textDashv
 21854 \let\leftModels\textDashV
 21855 \let\leftModels\textDashV
 21856 \let\varparallel\textsslash
 21857 \let\textheng\textPUheng
 21858 \let\texthookfour\textPUhookfour
 21859 \let\textscf\textPUscf
 21860 \let\textaoig\textPUaolig
 21861 \let\Ganz\textfullnote
 21862 \let\Halb\texthalfnote
 21863 \let\Womanface\textWomanFace
 21864 \let\Faxmachine\textFax
 21865 \let\CEsign\textCESign

```
21866 }% \psdaliasnames
21867 </psdextra>
```

52 End of file hyccheck.tex

```
21868 <*check>
21869 \typeout{}
21870 \begin{document}
21871 \end{document}
21872 </check>
```