

Hypertext marks in L^AT_EX

Sebastian Rahtz (deceased)

Heiko Oberdiek (inactive)

The L^AT_EX Project

<https://github.com/latex3/hyperref/issues>

2023-04-22 v7.00x

1 Documentation overview for hyperref

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

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

ChangeLog This file records the version history.

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 hycheck.tex	7
4	Package options and setup	11
4.1	Save catcodes	11
4.2	Version check	13
4.3	Checks with regular expressions	14
4.4	Compatibility with format dumps	15
4.5	Switches	15
5	Common help macros	17
5.1	Macros for recursions	17
5.2	Babel's protection of shorthand characters	18
5.3	Coordinate transformations	18
6	Dealing with PDF strings	18
6.1	Description of PDF strings	18
6.2	Definition of <code>\pdfstringdef</code>	19
6.2.1	Preprocessing	20
6.2.2	Expansion	26
6.2.3	Postprocessing	27
6.3	Encodings	32
6.3.1	XeTeX	32
6.3.2	Workaround for package linguex	32
6.3.3	Catcodes saving and restoring for <code>.def</code> files	32
6.3.4	PD1 encoding	33
6.3.5	PU encoding	34
6.4	Additional user commands	34
6.4.1	<code>\texorpdfstring</code>	34
6.4.2	Hooks for <code>\pdfstringdef</code>	35
6.5	Help macros for expansion	36
6.5.1	<code>\ignorespaces</code>	36
6.5.2	Babel languages	36
6.5.3	CJK patch	37
6.5.4	CJK bookmarks	37
6.5.5	CJK unicode	39
6.5.6	<code>\@inmathwarn-Patch</code>	43
6.5.7	Unexpandable spaces	45
6.5.8	Marker for commands	45
6.5.9	<code>\hspace fix</code>	45
6.5.10	Fix for AMS classes	46
6.5.11	Reference commands	46
6.5.12	Redefining the defining commands	48
6.5.13	<code>\ifnextchar</code>	50
6.5.14	<code>\@protected@testoptifnextchar</code>	50

6.6	Help macros for postprocessing	50
6.6.1	Generic warning.	50
6.6.2	Protecting spaces	50
6.6.3	Remove grouping braces	51
6.6.4	Catcode check	52
6.6.5	Check for wrong glyphs	56
6.6.6	Replacing tokens	57
6.6.7	Support for package <code>xspace</code>	58
6.6.8	Converting to Unicode	59
6.6.9	Support for UTF-8 input encoding	61
6.6.10	Support for die faces (ifsym et. al.)	65
6.6.11	Support for moon phases of package <code>china2e</code>	66
6.6.12	Support for package <code>pifont</code>	66
7	Support of other packages	68
7.1	Package subfigure	68
7.2	Package <code>xr</code> and <code>xr-hyper</code>	68
8	Help macros for links	69
9	Options	71
9.1	Help macros	71
9.2	Defining the options	74
10	Options for different drivers	79
11	Options to add extra features	84
12	Language options	85
13	Options to change appearance of links	94
14	Bookmarking	95
15	PDF-specific options	97
15.1	Package <code>xspace</code> support	111
15.2	Option <code>draft</code>	112
15.3	PDF/A	112
15.4	Patch for babel's <code>\texttilde</code>	113
15.4.1	Driver loading	115
15.4.2	Bookmarks	119
16	User hypertext macros	122
16.1	Link box support for XeTeX	129
17	Underlying basic hypertext macros	130
18	Option ‘destlabel’	134

19 Forms creation	136
19.1 Field flags	136
19.1.1 Declarations of field flags	138
19.1.2 Set submit flags	140
19.1.3 Set annot flags in fields	141
19.1.4 Pushbutton field	141
19.1.5 Check box field	142
19.1.6 Radio button field	142
19.1.7 Text fields	142
19.1.8 Choice fields	143
19.2 Choice field	144
19.3 Forms	146
20 Setup	154
21 Low-level utility macros	155
22 Localized nullifying of package	156
23 Package nohyperref	156
24 The Mangling Of Aux and Toc Files	157
25 Title strings	158
26 Page numbers	160
27 Every page	160
27.1 PDF /PageLabels	161
27.1.1 pdfTeX and VTeX	165
27.1.2 xetex	166
27.1.3 pdfmarkbase, dvipdfm, xetex	167
28 Automated L^AT_EX hypertext cross-references	169
29 Package ifthen support	175
30 Package titlesec and titletoc support	175
31 Package varioref support	176
32 Package longtable support	176
33 Equations	177
34 Footnotes	180
35 Float captions	185
36 Bibliographic references	188
36.1 Package harvard	190
36.2 Package chicago	192

37	Page numbers	192
38	Table of contents	195
39	New counters	197
40	AMSL^AT_EX compatibility	197
40.1	\@addtoreset and \numberwithin patches	198
41	Included figures	199
42	hyperindex entries	199
43	Configuration files	208
43.1	PS/PDF strings	208
43.2	pdftex	210
43.2.1	Fix for problem with different nesting levels	223
43.3	hypertex	223
43.4	dviwindo	226
43.5	dvipdfm/xetex dvi to PDF converter	231
43.6	VTeX typesetting system	242
43.7	Fix for Adobe bug number 466320	255
43.8	Direct pdfmark support	256
43.9	Rokicki's dvips	270
43.10	VTeX's vtexpdfmark driver	273
43.11	Textures	274
43.12	dvipsone	279
43.13	TeX4ht	283
44	Driver-specific form support	285
44.1	pdfmarks	285
44.2	HyperTeX	294
44.3	TeX4ht	294
44.4	pdfTeX	297
44.5	dvipdfm, xetex	306
44.6	Common forms part	314
45	Bookmarks in the PDF file	322
45.1	Bookmarks	322
45.1.1	Rerun warning	326
45.1.2	Driver stuff	326
46	Encoding definition files for encodings of PDF strings	332
46.1	PD1 encoding	332
46.2	PU encoding	341
46.2.1	NFSS2 accents	341
46.2.2	Basic Latin: U+0000 to U+007F	343
46.2.3	Latin-1 Supplement: U+0080 to U+00FF	345
46.2.4	Latin Extended-A: U+0080 to U+017F	349
46.2.5	Latin Extended-B: U+0180 to U+024F	355
46.2.6	IPA Extensions: U+0250 to U+02AF	359

46.2.7	Spacing Modifier Letters: U+02B0 to U+02FF	365
46.2.8	Combining Diacritical Marks: U+0300 to U+036F	366
46.2.9	Greek and Coptic: U+0370 to U+03FF	367
46.2.10	Cyrillic: U+0400 to U+04FF	370
46.2.11	Hebrew: U+0590 to U+05FF	381
46.2.12	Thai: U+0E00 to U+0E7F	383
46.2.13	Phonetic Extensions: U+1D00 to U+1D7F	383
46.2.14	Phonetic Extensions Supplement: U+1D80 to U+1DBF	384
46.2.15	Latin Extended Additional: U+1E00 to U+1EFF	384
46.2.16	General Punctuation: U+2000 to U+206F	390
46.2.17	Superscripts and Subscripts: U+2070 to U+209F	391
46.2.18	Currency Symbols: U+20A0 to U+20CF	393
46.2.19	Letterlike Symbols: U+2100 to U+214F	393
46.2.20	Number Forms: U+2150 to U+218F	394
46.2.21	Arrows: U+2190 to U+21FF	395
46.2.22	Mathematical Operators: U+2200 to U+22FF	399
46.2.23	Miscellaneous Technical: U+2300 to U+23FF	410
46.2.24	Control Pictures: U+2400 to U+243F	411
46.2.25	Optical Character Recognition: U+2440 to U+245F	411
46.2.26	Enclosed Alphanumerics: U+2460 to U+24FF	411
46.2.27	Box Drawing: U+2500 to U+257F	414
46.2.28	Geometric Shapes: U+25A0 to U+25FF	414
46.2.29	Miscellaneous Symbols: U+2600 to U+26FF	415
46.2.30	Dingbats: U+2700 to U+27BF	420
46.2.31	Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF	423
46.2.32	Supplemental Arrows-A: U+27F0 to U+27FF	423
46.2.33	Supplemental Arrows-B: U+2900 to U+297F	424
46.2.34	Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF	426
46.2.35	Supplemental Mathematical Operators: U+2A00 to U+2AFF	426
46.2.36	Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF	430
46.2.37	Latin Extended-C: U+2C60 to U+2C7F	430
46.2.38	Supplemental Punctuation: U+2E00 to U+2E7F	430
46.2.39	Modifier Tone Letters: U+A700 to U+A71F	430
46.2.40	Latin Extended-D: U+A720 to U+A7FF	430
46.2.41	Alphabetic Presentation Forms: U+FB00 to U+FB4F	431
46.2.42	Musical Symbols: U+1D100 to U+1D1FF	431
46.2.43	Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF	431
46.2.44	Transport and Map Symbols: U+1F680 to U+1F6FF	431
46.2.45	Miscellaneous	432
46.2.46	Aliases	432
46.3	PU encoding, additions for VnT _E X	432
46.4	PU encoding, additions for Arabi	435
47	End of file hycheck.tex	460
48	Index	461

3 File hycheck.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 <*check>
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 L^AT_EX 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 L^AT_EX'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 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.

```

165 \begingroup
166   \@makeother`\%
167   \@makeother\=%
168   \edef\x{%
169     \edef\noexpand\x{%
170       \endgroup
171       \noexpand\toks@{%
172         \catcode 96=noexpand\the\catcode`\noexpand`\relax
173         \catcode 61=noexpand\the\catcode`\noexpand\=\relax
174       }%
175     }%
176     \noexpand\x
177   }%
178   \x
179   \@makeother`\
180   \@makeother\=

```

\Hy@SetCatcodes

```

181 \def\Hy@SetCatcodes{%
182   \@makeother`\%
183   \@makeother\=%
184   \catcode`\$=3 %
185   \catcode`\&=4 %
186   \catcode`\^=7 %
187   \catcode`\_ =8 %
188   \@makeother\| %
189   \@makeother\:%
190   \@makeother\(%
191   \@makeother\)%
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 }

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode`\noexpand#1=\the\catcode`#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
210   \x\&%
211   \x\~%
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 }%
230 \endgroup

```

231 \Hy@SetCatcodes

change 2020-07-24: require newer pdftexcmds and remove fallback code for version older than 2010. change 2021-08-14: require expl3

```

232 \ifx\ExplSyntaxOn\undefined \RequirePackage{expl3}\fi
233 \RequirePackage{ltxcmds}[2010/11/12]
234 \RequirePackage{iftex}[2019/10/24]
235 \RequirePackage{pdftexcmds}[2018/09/10]
236 \RequirePackage{infwarerr}[2010/04/08]
237 \RequirePackage{keyval}[1997/11/10]
238 \RequirePackage{kvsetkeys}[2007/09/29]
239 \RequirePackage{kvdefinekeys}[2011/04/07]
240 \RequirePackage{pdfescape}[2007/11/11]
241 \RequirePackage{hycolor}
242 \RequirePackage{letltxmacro}[2008/06/13]
243 \RequirePackage{auxhook}[2009/12/14]
244 \RequirePackage{nameref}[2012/07/28]

```

```

245 \RequirePackage{etoolbox}
246 \def\Hy@Error{\@PackageError{hyperref}}
247 \def\Hy@Warning{\@PackageWarning{hyperref}}
248 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
249 \def\Hy@Info{\@PackageInfo{hyperref}}
250 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
251 \def\Hy@Message#1{%
252   \GenericWarning{%
253     (hyperref)\@spaces\@spaces\@spaces\@spaces
254   }{%
255     Package hyperref Message: #1\ltx@gobble
256   }%
257 }

```

4.2 Version check

\Hy@VersionChecked

```

258 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

259 \def\Hy@VersionCheck#1{%
260   \begingroup
261   \ltx@ifundefined{ver@hyperref.sty}{%
262     \Hy@Error{%
263       This should not happen!\MessageBreak
264       Missing hyperref version%
265     }\@ehd
266   }{%
267     \ltx@ifundefined{ver@#1}{%
268       \Hy@Error{%
269         This should not happen!\MessageBreak
270         Missing version of `#1'%
271       }\@ehd
272     }{%
273       \def\x##1##2##3{%
274         \expandafter\expandafter\expandafter\Hy@@VersionCheck
275         \expandafter\expandafter\expandafter##2%
276         \csname ver@##3\endcsname##1##1\@nil
277       }%
278       \x{ }\y{hyperref.sty}%
279       \x{ }\z{#1}%
280       \ifx\y\z
281         \else
282         \edef\a{#1}%
283         \edef\b{\HyOpt@CustomDriver.def}%
284         \ifx\a\b
285           \Hy@WarningNoLine{%
286             Version mismatch (custom driver)!\MessageBreak
287             * \y: hyperref.sty\MessageBreak
288             * \z: \a
289           }%
290         \else
291           \Hy@Error{%
292             Version mismatch!\MessageBreak

```

```

293      * \y: hyperref.sty\MessageBreak
294      * \z: \a
295      }\@ehd
296      \fi
297      \fi
298      }%
299      }%
300 \endgroup
301 \chardef\Hy@VersionChecked=1 %
302 }

```

\Hy@@VersionCheck

```

303 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
304 \def#1{#2 #3}%
305 }

```

4.3 Checks with regular expressions

```

306 \ltx@ifundefined{pdfmatch}{%
307 \def\Hy@Match#1#2#3#4#5{%
308 }{%
309 \def\Hy@Match#1#2#3{%
310 \begingroup
311 \edef\~{\ltx@backslashchar\string~}%
312 \edef\.{\ltx@backslashchar.}%
313 \edef\[\{\ltx@backslashchar[]}%
314 \edef\${\ltx@backslashchar$}%
315 \edef\({\ltx@backslashchar(}%
316 \edef\){\ltx@backslashchar)}%
317 \edef\|{\ltx@backslashchar|}%
318 \edef\*{\ltx@backslashchar*}%
319 \edef\+{\ltx@backslashchar+}%
320 \edef\?{\ltx@backslashchar?}%
321 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
322 \edef\}{\ltx@rightbracechar}%
323 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
324 \let\ \ltx@space
325 \ifcase\pdfmatch#2{#3}{#1} %
326 \endgroup
327 \expandafter\ltx@secondoftwo
328 \or
329 \endgroup
330 \expandafter\ltx@firstoftwo
331 \else
332 \Hy@Warning{%
333 Internal error: Wrong pattern!\MessageBreak
334 --> #3 <--\MessageBreak
335 Pattern check ignored%
336 }%
337 \endgroup
338 \expandafter\ltx@firstoftwo
339 \fi
340 }%
341 }

```

4.4 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 L^AT_EX processing.

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

```
342 \@ifundefined{AfterBeginDocument}{%
343   \def\AfterBeginDocument{\AtBeginDocument}%
344 }{}%
```

`\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.

```
345 \def\Hy@AtBeginDocument{%
346   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
347 }
```

`\Hy@AtEndOfPackage`

```
348 \def\Hy@AtEndOfPackage{%
349   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
350 }
```

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

```
353 \AtEndOfPackage{%
354   \Hy@AtEndOfPackageHook
355   \let\Hy@AtEndOfPackageHook\@undefined
356   \AfterBeginDocument{%
357     \Hy@AtBeginDocumentHook}%
358   \let\Hy@AtBeginDocumentHook\@undefined
359 }%
360 }
```

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

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

4.5 Switches

```
362 \newif\ifHy@stoppedearly
363 \newif\ifHy@typexml
364 \newif\ifHy@activeanchor
365 \newif\ifHy@backref
366 \newif\ifHy@bookmarks
```

```

367 \newif\ifHy@bookmarksnumbered
368 \newif\ifHy@bookmarksopen
369 \newif\ifHy@breaklinks
370 \newif\ifHy@pdfcenterwindow
371 \newif\ifHy@CJKbookmarks
372 \newif\ifHy@colorlinks
373 \newif\ifHy@destlabel
374 \newif\ifHy@draft
375 \let\Hy@finaltrue\Hy@draftfalse
376 \let\Hy@finalfalse\Hy@drafttrue
377 \newif\ifHy@pdfescapeform
378 \newif\ifHy@hyperfigures
379 \newif\ifHy@pdfitwindow
380 \newif\ifHy@frenchlinks
381 \newif\ifHy@hyperfootnotes
382 \newif\ifHy@hyperindex
383 \newif\ifHy@hypertextnames
384 \newif\ifHy@implicit
385 \newif\ifHy@linktopage
386 \newif\ifHy@localanchorname
387 \newif\ifHy@pdfmenubar
388 \newif\ifHy@naturalnames
389 \newif\ifHy@nesting
390 \newif\ifHy@pdfnewwindowset
391 \newif\ifHy@pdfnewwindow
392 \newif\ifHy@ocgcolorlinks
393 \newif\ifHy@pageanchor
394 \newif\ifHy@pdfpagelabels
395 \newif\ifHy@pdfstring
396 \newif\ifHy@plainpages
397 \newif\ifHy@psize
398 \newif\ifHy@raiselinks
399 \newif\ifHy@seminarslides
400 \newif\ifHy@setpagesize
401 \newif\ifHy@texht
402 \newif\ifHy@psdextra
403 \newif\ifHy@pdftoolbar
404 \newif\ifHy@unicode
405 \newif\ifHy@pdfusetitle
406 \newif\ifHy@verbose
407 \let\Hy@debugtrue\Hy@verbosetrue
408 \let\Hy@debugfalse\Hy@verbosefalse
409 \newif\ifHy@pdfwindowui
410 \newif\ifHy@pdfdisplaydoctitle
411 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

412 \Hy@backreffalse
413 \Hy@bookmarksnumberedfalse
414 \Hy@bookmarksopenfalse
415 \Hy@bookmarkstrue
416 \Hy@breaklinksfalse
417 \Hy@pdfcenterwindowfalse
418 \Hy@CJKbookmarksfalse
419 \Hy@destlabelfalse

```



```

420 \Hy@pdfescapeformfalse
421 \Hy@hyperfiguresfalse
422 \Hy@pdffitwindowfalse
423 \Hy@hyperfootnotesttrue
424 \Hy@hyperindextrue
425 \Hy@hypertextnamestrue
426 \Hy@implicitttrue
427 \Hy@linktocpagefalse
428 \Hy@localanchornamefalse
429 \Hy@pdfmenubartrue
430 \Hy@naturalnamesfalse
431 \Hy@nestingfalse
432 \Hy@pdfnewwindowsetfalse
433 \Hy@pdfnewwindowfalse
434 \Hy@pageanchortrue
435 \Hy@pdfpagelabelstrue
436 \Hy@pdfstringfalse
437 \Hy@plainpagesfalse
438 \Hy@raiselinksfalse
439 \Hy@setpagesizetrue
440 \Hy@texhtfalse
441 \Hy@psdextrafalse
442 \Hy@pdftoolbartrue
443 \Hy@unicodetrue
444 \ifx\kanjiskip\@undefined
445 \else
446 \ifx\forcecjktoken\@undefined
447 \Hy@unicodefalse
448 \fi
449 \fi
450 \Hy@pdfusetitlefalse
451 \Hy@verbosefalse
452 \Hy@pdfwindowuitrue
453 \Hy@pdfdisplaydoctitlefalse
454 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

457 \newdimen\@linkdim
458 \let\Hy@driver\ltx@empty
459 \let\MaybeStopEarly\relax
460 \newcount\Hy@linkcounter
461 \newcount\Hy@pagecounter
462 \Hy@linkcounter0
463 \Hy@pagecounter0

```

5.1 Macros for recursions

```

464 \let\Hy@ReturnEnd\@empty
465 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
466 \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.

```

467 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
468 \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 the now required e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.

Example (TeX):

```

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

```

`\hypercalcbp`

```

469 \def\hypercalcbp#1{%
470   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
471 }%
472 \def\hypercalcbpdef{\def}%

```

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 <i>ddd</i>
- 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.

`\MakeUppercase` and `\MakeLowercase` do not work by expansion in legacy code but if the `expl3` code is available we can handle them. If a current babel or polyglossia is used we can also make use of the language.

`\MakeUppercaseUnsupportedInPdfStrings`
`\MakeLowercaseUnsupportedInPdfStrings`

```

473 \providecommand*\BCPdata[1]{}
474 \ExplSyntaxOn
475 \@ifundefined{text_uppercase:n}{}
476 {
477   \def\MakeUppercaseUnsupportedInPdfStrings#1
478     {\use:e
479       {\exp_args:Ne
480         \text_uppercase:nn{\BCPdata { casing }}{#1}
481       }
482     }
483   \def\MakeLowercaseUnsupportedInPdfStrings#1
484     {\use:e
485       {\exp_args:Ne
486         \text_lowercase:nn{\BCPdata { casing }}{#1}
487       }
488     }
489 }
490 \ExplSyntaxOff

```

`\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 cat-codes 10 until 12.

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

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

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

```
492 \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.

```
493 \escapechar`\%
```

From the view of \TeX an 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.

```
494 \edef\0{\string\0}%
```

```
495 \edef\1{\string\1}%
```

```
496 \edef\2{\string\2}%
```

```
497 \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.

```
498 \ifHy@unicode
```

```
499 \edef\8{\string\8}%
```

```
500 \edef\9{\string\9}%
```

```
501 \fontencoding{PU}%
```

```

502 \HyPsd@UTFviii
503 \def\ifpdfstringunicode##1##2{##1}%
504 \else
505 \fontencoding{PD1}%
506 \def\ifpdfstringunicode##1##2{##2}%
507 \fi
508 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
509 \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).

```

510 \@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).

```

511 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

512 \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. UF 29.09.2017: added a mapping for `\noboundary`, see issue #37 <https://github.com/latex3/hyperref/issues/37> No test for PU, if some definition for PD1 is added it will work too.

```

513 \let\{\textbraceleft
514 \let\}\textbraceright
515 \let\\\textbackslash
516 \let\#\textnumbersign
517 \let\$\textdollar
518 \let\%\textpercent
519 \let\&\textampersand
520 % \let\~\textasciitilde
521 \let\_ \textunderscore
522 \let\P\textparagraph
523 \let\ldots\textellipsis
524 \let\dots\textellipsis
525 \ltx@ifundefined{textEncodingNoboundary}%
526 {}{\let\noboundary\textEncodingNoboundary}%

```

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.

```
527 \def\{\pdfstringdefWarn\}%
528 \def\newline{\pdfstringdefWarn\newline}%
```

Logos. Because the box shifting used in the \TeX logo does not work while writing to a file, the standard \TeX logos are redefined. We use the direct PU code to avoid problems if `\textepsilon` is not defined.

```
529 \def\TeX{\TeX}%
530 \def\LaTeX{\LaTeX}%
531 \def\LaTeXe{%
532   \LaTeX2%
533   \ifHy@unicode\83\265\else e\fi
534 }%
535 \def\eTeX{%
536   \ifHy@unicode\83\265\else e\fi
537   -\TeX%
538 }%
539 \def\SliTeX{\SliTeX}%
540 \def\MF{Metafont}%
541 \def\MP{Metapost}%
```

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

```
542 \let\fontencoding\@gobble
543 \let\fontfamily\@gobble
544 \let\fontseries\@gobble
545 \let\fontshape\@gobble
546 \let\fontsize\@gobbletwo
547 \let\selectfont\@empty
548 \let\usefont\@gobblefour
549 \let\emph\@firstofone
550 \let\textnormal\@firstofone
551 \let\textrm\@firstofone
552 \let\textsf\@firstofone
553 \let\texttt\@firstofone
554 \let\textbf\@firstofone
555 \let\textmd\@firstofone
556 \let\textit\@firstofone
557 \let\textsc\@firstofone
558 \let\textsl\@firstofone
559 \let\textup\@firstofone
560 \let\normalfont\@empty
561 \let\rmfamily\@empty
```

```

562 \let\sfamily\@empty
563 \let\ttfamily\@empty
564 \let\bfseries\@empty
565 \let\mdseries\@empty
566 \let\itshape\@empty
567 \let\scshape\@empty
568 \let\slshape\@empty
569 \let\upshape\@empty
570 \let\em\@empty
571 \let\rm\@empty
572 \let\Huge\@empty
573 \let\LARGE\@empty
574 \let\Large\@empty
575 \let\footnotesize\@empty
576 \let\huge\@empty
577 \let\large\@empty
578 \let\normalsize\@empty
579 \let\scriptsize\@empty
580 \let\small\@empty
581 \let\tiny\@empty
582 \let\mathversion\@gobble
583 \let\phantom\@gobble
584 \let\vphantom\@gobble
585 \let\hphantom\@gobble

```

Package pifont.

```

586 \let\ding\HyPsd@ding
587 \let\Cube\HyPsd@DieFace
588 %* \HyPsd@DieFace -> \epsdice (epsdice)
589 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

590 \def\begin##1{\csname##1\endcsname}%
591 \def\end##1{\csname end##1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

593 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
594 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

595 \ifHy@psdextra
596 \ifHy@unicode
597 \csname psdmapshortnames\endcsname
598 \csname psdaliasnames\endcsname
599 \fi
600 \fi

```

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

```

601 \let\foreignlanguage\@secondoftwo
602 \let\textlatin\@firstofone
603 \let\IfUndefined\language@group\@firstofone
604 \let\bbl@info\@gobble
605 \csname HyPsd@babel@\language@group\endcsname
606 }%

607 \let\@safe@activetrue\relax
608 \let\@safe@activesfalse\relax

```

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

```

609 \let\cyr\relax

```

Package german.

```

610 \let\glqq\textglqq
611 \let\grqq\textgrqq
612 \let\glq\textglq
613 \let\grq\textgrq
614 \let\flqq\textflqq
615 \let\frqq\textfrqq
616 \let\flq\textflq
617 \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}

```

```

618 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

619 \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.

```

620 \let\hspace\HyPsd@hspace

```

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

```

621 \let\label\@gobble
622 \let\index\@gobble
623 \let\glossary\@gobble
624 \let\href\HyPsd@href
625 \let\@mkboth\@gobbletwo

```


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

```
626 \let\ref\HyPsd@ref
627 \let\pageref\HyPsd@pageref
628 \let\nameref\HyPsd@nameref
629 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
630 \let\leavevmode\@empty
631 \let\mbox\@empty
```

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

```
632 \def\halign{\pdfstringdefWarn\halign\@gobble}%
633 \let\ignorespaces\HyPsd@ignorespaces
634 \let\Hy@SectionAnchorHref\@gobble
635 \let\ensuremath\@firstofone
```

Patch for cjk bookmarks.

```
636 \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@tostopt`, and `\@ifnextchar` for `\renewcommand`).

```
637 \Hy@pdfstringtrue
638 \pdfstringdefPreHook
```

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

```
639 \HyPsd@LetUnexpandableSpace\space
640 \HyPsd@LetUnexpandableSpace\ %
641 \HyPsd@LetUnexpandableSpace~%
642 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package `xspace`.

```
643 \ltx@ifundefined{@xspace}{%
644 \let\xspace\HyPsd@ITALCORR
645 }{%
646 \let\xspace\HyPsd@XSPACE
647 }%
648 \let\/\HyPsd@ITALCORR
649 \let\bgroup\/%
650 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
651 \let\discretionary\@gobbletwo
```

`\@ifstar` is defined in L^AT_EX as follows:

```
\def\@ifstar#1{\@ifnextchar *{\@firstoftwo{#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:

```
652 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
```

```
653 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
```

```
654 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
```

```
655 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
656 \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).

```
657 \begingroup
658 \let\GenericError\@gobblefour
659 \let\GenericWarning\@gobbletwo
660 \let\GenericInfo\@gobbletwo
```

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

```
661 \ifx\nofrenchguillemets\@undefined
662 \else
663 \nofrenchguillemets
664 \fi
```

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

```
665 \let\Hy@temp\xdef
666 \let\def\HyPsd@DefCommand
667 \let\gdef\HyPsd@DefCommand
668 \let\edef\HyPsd@DefCommand
669 \let\xdef\HyPsd@DefCommand
670 \let\futurelet\HyPsd@LetCommand
671 \let\let\HyPsd@LetCommand
672 \Hy@temp#1{#2}%
673 \endgroup
```

6.2.3 Postprocessing

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

```
674 \ifx#1\@empty
675 \else
```

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

- `TEX` 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.

```
676 \HyPsd@ProtectSpaces#1%
677 \let\HyPsd@String\@empty
678 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
679 \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 $\text{\HyPsd@CheckCatcodes}$ 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 $\text{\HyPsd@CheckCatcodes}$ is called.

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

```
680 \let\HyPsd@SPACEOPTI\relax
681 {%
682 \let\HyPsd@String\@empty
683 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
684 \global\let#1\HyPsd@String
685 }%
686 \expandafter\HyPsd@RemoveMask\expandafter
687 |\expandafter\@empty#1\HyPsd@End#1%
```

$\text{\HyPsd@CheckCatcodes}$ 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.

```
688 \expandafter
689 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
```

```

690 \let\HyPsd@String\@empty
691 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
692 \global\let#1\HyPsd@String

```

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

```

693 \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 `\guillemetright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```

694 \iffHy@unicode
695 \expandafter\HyPsd@StringSubst\cename 80\040\endcsname
696 \HyPsd@SPACEOPTI#1%
697 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
698 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
699 {\HyPsd@SPACEOPTI\80\273}#1%
700 \else
701 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
702 \expandafter\HyPsd@Subst\expandafter{%
703 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
704 \string\273}\HyPsd@SPACEOPTI\273}#1%
705 \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.

```

706 \iffHy@unicode
707 \HyPsd@StringSubst{\)}{\80\051}#1%
708 \HyPsd@Subst){\80\051}#1%
709 \let\HyPsd@empty\relax
710 \expandafter\HyPsd@StringSubst\cename 80\051\endcsname
711 {\HyPsd@empty\80\051}#1%
712 \else
713 \HyPsd@StringSubst{\)}{\051}#1%
714 \HyPsd@Subst){\051}#1%
715 \let\HyPsd@empty\relax
716 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
717 \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`.

```

718 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
719 \ltx@ifundefined{@xspace}{%
720 }{%
721 \let\HyPsd@xspace\relax
722 \expandafter\HyPsd@Subst\expandafter
723   {\HyPsd@XSPACE}\HyPsd@xspace#1%
724 \let\HyPsd@xspace\HyPsd@doxspace
725 }%
726 \xdef#1{#1\HyPsd@empty}%

```

Ligatures. \TeX forms ligatures in its stomach, but the PDF strings are treated only by \TeX '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.

```

727 \HyPsd@Subst{---}\textemdash#1%
728 \HyPsd@Subst{--}\textendash#1%
729 % \HyPsd@Subst{fi}\textfi#1%
730 % \HyPsd@Subst{fl}\textfl#1%
731 \HyPsd@Subst{!`}\textexclamdown#1%
732 \HyPsd@Subst{?`}\textquestiondown#1%

```

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

```

733 \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.

```

734 \ifHy@unicode
735 \HyPsd@StringSubst{\textparenleft#1%
736 \HyPsd@Subst{\textparenleft#1%
737 \else
738 \HyPsd@StringSubst{\{050\}#1%
739 \HyPsd@Subst{\{050\}#1%

```

```

740     \HyPsd@StringSubst{\050}{\string\{ }#1%
741     \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.

```

742     \ifHy@unicode
743     \edef\HyPsd@SPACEOPTI{\80\040}%
744     \else
745     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
746     \fi
747     \xdef#1{#1\@empty}%
748     \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.

```

749     \endgroup
750     \begingroup
751     \ifHy@unicode
752     \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

753     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
754     \ltx@ifundefined{StringEncodingConvertTest}{%
755     }{%
756     \EdefUnescapeString\HyPsd@temp#1%
757     \iftutex
758     \let\HyPsd@UnescapedString\HyPsd@temp
759     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
760     {utf16be}{ascii-print}{%
761     \EdefEscapeString\HyPsd@temp\HyPsd@temp
762     \global\let#1\HyPsd@temp
763     \HyPsd@EscapeTeX#1%
764     \Hy@unicodedefalse
765     }{%
766     \HyPsd@EscapeTeX#1%
767     }%
768     \else
769     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
770     {utf16be}{pdfdoc}{%
771     \EdefEscapeString\HyPsd@temp\HyPsd@temp
772     \global\let#1\HyPsd@temp
773     \HyPsd@EscapeTeX#1%
774     \Hy@unicodedefalse
775     }{%}%
776     \fi
777     }%
778     \fi
779     \fi

```

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

```
780 \pdfstringdefPostHook#1%
781 \endgroup
782 }
```

`\Hy@pdfstringdef`

```
783 \def\Hy@pdfstringdef#1#2{%
784 \pdfstringdef\Hy@gtemp{#2}%
785 \let#1\Hy@gtemp
786 }
```

6.3 Encodings

6.3.1 XeTeX

change 2020-05-13: the special code for XeTeX big chars has been removed as no longer needed.

6.3.2 Workaround for package linguex

```
787 \@ifpackageloaded{linguex}{%
788 \let\HyLinguex@OrgB\b
789 \let\HyLinguex@OrgC\c
790 \let\HyLinguex@OrgD\d
791 \def\HyLinguex@Restore{%
792 \let\b\HyLinguex@OrgB
793 \let\c\HyLinguex@OrgC
794 \let\d\HyLinguex@OrgD
795 }%
796 \Hy@AtEndOfPackage{%
797 \pdfstringdefDisableCommands{%
798 \ltx@ifundefined{oldb}{\let\b\oldb}%
799 \ltx@ifundefined{oldc}{\let\c\oldc}%
800 \ltx@ifundefined{oldd}{\let\d\oldd}%
801 }%
802 }%
803 }{%
804 \let\HyLinguex@Restore\relax
805 }%
```

6.3.3 Catcodes saving and restoring for .def files

`\Hy@SaveCatcodeSettings`

```
806 \def\Hy@SaveCatcodeSettings#1{%
807 \expandafter\edef\csname Hy@cat@#1\endcsname{%
808 \endlinechar=\the\endlinechar\relax
809 \catcode32 \the\catcode32\relax % (space)
810 \catcode34 \the\catcode34\relax % "
811 \catcode35 \the\catcode35\relax % #
812 \catcode37 \the\catcode37\relax % (percent)
813 \catcode40 \the\catcode40\relax % (
814 \catcode41 \the\catcode41\relax % )
815 \catcode42 \the\catcode42\relax % *
```



```

816 \catcode46 \the\catcode46\relax % .
817 \catcode58 \the\catcode58\relax % :
818 \catcode60 \the\catcode60\relax % <
819 \catcode61 \the\catcode61\relax % =
820 \catcode62 \the\catcode62\relax % >
821 \catcode64 \the\catcode64\relax % @
822 \catcode91 \the\catcode91\relax % [
823 \catcode92 \the\catcode92\relax % (backslash)
824 \catcode93 \the\catcode93\relax % ]
825 \catcode123 \the\catcode123\relax % {
826 \catcode124 \the\catcode124\relax % |
827 \catcode125 \the\catcode125\relax % }
828 }%
829 \endlinechar=-1 %
830 \catcode32 10 % (space)
831 \catcode34 12 % "
832 \catcode35 6 % #
833 \catcode37 14 % (percent)
834 \catcode40 12 % (
835 \catcode41 12 % )
836 \catcode42 12 % *
837 \catcode46 12 % .
838 \catcode58 12 % :
839 \catcode60 12 % <
840 \catcode61 12 % =
841 \catcode62 12 % >
842 \catcode91 12 % [
843 \catcode92 0 % (backslash)
844 \catcode93 12 % ]
845 \catcode123 1 % {
846 \catcode124 12 % |
847 \catcode125 2 % }
848 \makeatletter
849 }

```

\Hy@RestoreCatcodeSettings

```

850 \def\Hy@RestoreCatcodeSettings#1{%
851 \csname Hy@cat@#1\endcsname
852 \expandafter\let\csname Hy@cat@#1\endcsname\relax
853 }

```

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.

```

854 \@ifundefined{T@PD1}{%
855 \Hy@SaveCatcodeSettings{pd1}%
856 \input{pd1enc.def}%

```

```

857 \Hy@RestoreCatcodeSettings{pd1}%
858 \HyLinguex@Restore
859 }{}
860 \DeclareFontFamily{PD1}{pdf}{}
861 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
862 \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. change 2020-08-14: Starting with version v7.00f the file is always loaded and `unicode` is the default 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`.

```

863 \def\HyPsd@LoadUnicode{%
864   \@ifundefined{T@PU}{%
865     \Hy@SaveCatcodeSettings{pu}%
866     \input{puenc.def}%
867     \Hy@RestoreCatcodeSettings{pu}%
868     \HyLinguex@Restore
869   }{}%
870   \DeclareFontFamily{PU}{pdf}{}%
871   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
872   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
873   \HyPsd@LoadExtra
874   \let\HyPsd@LoadUnicode\relax
875 }

```

`\HyPsd@LoadExtra`

```

876 \def\HyPsd@LoadExtra{%
877   \ifHy@psdextra
878     \ltx@iffileloaded{puenc.def}{}%
879     \ltx@iffileloaded{puenc-greekbasic.def}{}{}%
880     \Hy@SaveCatcodeSettings{pu}%
881     \input{puenc-greekbasic.def}%
882     \Hy@RestoreCatcodeSettings{pu}%
883     \Hy@SaveCatcodeSettings{psdextra}%
884     \input{psdextra.def}%
885     \Hy@RestoreCatcodeSettings{psdextra}%
886     \let\HyPsd@LoadExtra\relax
887   }{}%
888   \fi
889 }

```

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.

```

890 \def\texorpdfstring{%
891   \ifHy@pdfstring
892     \expandafter\@secondoftwo
893   \else
894     \expandafter\@firstoftwo
895   \fi
896 }
```

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`.

```

897 \@ifundefined{pdfstringdefPreHook}{%
898   \let\pdfstringdefPreHook\@empty
899 }{}
900 \@ifundefined{pdfstringdefPostHook}{%
901   \let\pdfstringdefPostHook\@gobble
902 }{}
```

`\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`.

```

903 \def\pdfstringdefDisableCommands{%
904   \begingroup
905     \makeatletter
906     \HyPsd@DisableCommands
907 }
```

`\HyPsd@DisableCommands`

```

908 \long\def\HyPsd@DisableCommands#1{%
909   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
910   \endgroup
911 }
```

`\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`.

```

912 \def\pdfstringdefWarn#1{%
913   \expandafter\noexpand\csname<>\string#1\endcsname
914 }
```

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.

```

915 \begingroup
916   \catcode0=12 %
917   \def\x{\endgroup
918     \def\HyPsd@ignorespaces{%
919       \romannumeral\expandafter`\expandafter^^@%
920       \romannumeral^^@%
921     }%
922   }%
923 \x
```

6.5.2 Babel languages

change 2020-10-10: moved language patches to its own file as a first step toward removing them completely.

```

924 \newif\ifHy@next
925 \</package>
```

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

```

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

As consequence the shorthands were shown in the bookmarks, and required a `hyperref` patch. In version 3.48 babel removed this unneeded code and so the patch could be removed.

Nothing to do for english. change 2020/07/16: removed patch for french. No longer needed. change 2020/07/21: removed patches for german, ngerman. Will be done by the language package. <https://github.com/jspitz/babel-german/issues/4> change 2020/10/10: removed patches for danish, dutch, finnish, portugues, swedish, usorbian, slovene see <https://github.com/latex3/babel/issues/84> change 2020/10/10: removed patch for macedonian, ukrainian; maintainers notified. change 2020/10/11: removed patch for russian, has been merged into babel-russian

see <https://github.com/kia999/babel-russian/pull/3> change 2021/02/04: removed patches for greek numerals, code is now in babel-greek. spanish: Nested quoting environments are not supported (<<, >>). change 2021/07/19: removed patches for spanish, code is now in babel-spanish.

```
926 (*package)
```

6.5.3 CJK patch

```
927 \RequirePackage{intcalc}[2007/09/27]
```

```
\HyPsd@CJKhook
```

```
928 \def\HyPsd@CJKhook{%
929   \ltx@ifpackageloaded{CJK}{%
930     \let\CJK@kern\relax
931     \let\CJKkern\relax
932     \let\CJK@CJK\relax
933     \ifHy@CJKbookmarks
934       \HyPsd@CJKhook@bookmarks
935     \fi
936     \HyPsd@CJKhook@unicode
937   }{%
938   }
```

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 ($\geq 0x40$).

```
939 \begingroup
940 \catcode"7F=\active
941 \toks@{%
942   \let\CJK@ignorespaces\empty
943   \def\CJK@char#1{\@gobbletwo}%
944   \let\CJK@charx\@gobblefour
945   \let\CJK@punctchar\@gobblefour
946   \def\CJK@punctcharx#1{\@gobblefour}%
947   \catcode"7F=\active
948   \def^^7f#1^^7f#2^^7f{%
949     \string #1\HyPsd@DecimalToOctal{#2}%
950   }%
951   % ... ?
952   \ifHy@unicode
953     \def\Hy@cjkpu{\80}%
954   \else
955     \let\Hy@cjkpu\@empty
956   \fi
957   \HyPsd@CJKActiveChars
```

```

958 }%
959 \count@=127 %
960 \@whilenum\count@<255 \do{%
961   \advance\count@ by 1 %
962   \lccode`~=\count@
963   \lowercase{%
964     \toks@\expandafter{\the\toks@ ~}%
965   }%
966 }%
967 \toks@\expandafter{\the\toks@ !}%
968 \xdef\HyPsd@CJKhook@bookmarks{%
969   \the\toks@
970 }%
971 \endgroup

```

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

```

972 \def\HyPsd@CJKActiveChars#1{%
973   \ifx#1!%
974     \let\HyPsd@CJKActiveChars\relax
975   \else
976     \edef#1{\noexpand\Hy@cjkpu\string#1}%
977   \fi
978   \HyPsd@CJKActiveChars
979 }

```

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

```

980 \def\HyPsd@DecimalToOctal#1{%
981   \ifcase #1 %
982     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
983     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
984     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
985     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
986     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
987     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
988     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
989     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
990     \or @\or A\or B\or C\or D\or E\or F\or G%
991     \or H\or I\or J\or K\or L\or M\or N\or O%
992     \or P\or Q\or R\or S\or T\or U\or V\or W%
993     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
994     \or \140\or a\or b\or c\or d\or e\or f\or g%
995     \or h\or i\or j\or k\or l\or m\or n\or o%
996     \or p\or q\or r\or s\or t\or u\or v\or w%
997     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
998     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
999     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1000    \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1001    \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1002    \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1003    \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1004    \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1005    \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1006    \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%

```

```

1007 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1008 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1009 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1010 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1011 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1012 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1013 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1014 \fi
1015 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1016 \def\HyPsd@CJKhook@unicode{%
1017 \let\Unicode\HyPsd@CJK@Unicode
1018 \let\CJKnumber\HyPsd@CJKnumber
1019 \let\CJKdigits\HyPsd@CJKdigits
1020 }

```

\HyPsd@CJK@Unicode

```

1021 \def\HyPsd@CJK@Unicode#1#2{%
1022 \ifnum#1<256 %
1023 \HyPsd@DecimalToOctalFirst{#1}%
1024 \HyPsd@DecimalToOctalSecond{#2}%
1025 \else
1026 \933%
1027 \expandafter\expandafter\expandafter\HyPsd@HighA
1028 \intcalcDiv{#1}{4}!%
1029 \933%
1030 \ifcase\intcalcMod{#1}{4} %
1031 4\or 5\or 6\or 7%
1032 \fi
1033 \HyPsd@DecimalToOctalSecond{#2}%
1034 \fi
1035 }

1036 \def\HyPsd@HighA#1{%
1037 \expandafter\expandafter\expandafter\HyPsd@HighB
1038 \IntCalcDiv#1!64!!%
1039 \expandafter\expandafter\expandafter\HyPsd@HighD
1040 \IntCalcMod#1!64!!%
1041 }
1042 \def\HyPsd@HighB#1{%
1043 \expandafter\expandafter\expandafter\HyPsd@HighC
1044 \IntCalcDec#1!!%
1045 }
1046 \def\HyPsd@HighC#1{%
1047 \IntCalcDiv#1!4!%
1048 \@backslashchar
1049 \IntCalcMod#1!4!%
1050 }
1051 \def\HyPsd@HighD#1{%
1052 \ifcase\IntCalcDiv#1!8! %
1053 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%

```

```

1054 \fi
1055 \ifcase\IntCalcMod#1!8! %
1056 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1057 \fi
1058 }
1059 \def\HyPsd@DecimalToOctalFirst#1{%
1060 \9%
1061 \ifcase#1 %
1062 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1063 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1064 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1065 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1066 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1067 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1068 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1069 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1070 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1071 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1072 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1073 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1074 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1075 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1076 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1077 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1078 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1079 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1080 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1081 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1082 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1083 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1084 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1085 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1086 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1087 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1088 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1089 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1090 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1091 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1092 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1093 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1094 \fi
1095 }
1096 \def\HyPsd@DecimalToOctalSecond#1{%
1097 \ifcase #1 %
1098 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1099 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1100 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1101 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1102 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1103 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1104 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1105 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1106 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1107 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%

```



```

1108 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1109 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1110 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1111 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1112 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1113 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1114 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1115 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1116 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1117 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1118 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1119 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1120 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1121 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1122 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1123 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1124 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1125 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1126 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1127 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1128 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1129 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1130 \fi
1131 }

1132 \def\HyPsd@CJkNumber#1{%
1133 \ifnum#1<\z@
1134 \CJk@minus
1135 \expandafter\HyPsd@@CJkNumber\expandafter{\number-\number#1}%
1136 \else
1137 \expandafter\HyPsd@@CJkNumber\expandafter{\number#1}%
1138 \fi
1139 }

1140 \def\HyPsd@@CJkNumber#1{%
1141 \ifcase#1 %
1142 \CJk@zero\or\CJk@one\or\CJk@two\or\CJk@three\or\CJk@four\or
1143 \CJk@five\or\CJk@six\or\CJk@seven\or\CJk@eight\or\CJk@nine\or
1144 \CJk@ten\or\CJk@ten\CJk@one\or\CJk@ten\CJk@two\or
1145 \CJk@ten\CJk@three\or\CJk@ten\CJk@four\or\CJk@ten\CJk@five\or
1146 \CJk@ten\CJk@six\or\CJk@ten\CJk@seven\or\CJk@ten\CJk@eight\or
1147 \CJk@ten\CJk@nine
1148 \else
1149 \ifnum#1<10000 %
1150 \HyPsd@CJkNumberFour#1!\@empty{20}%
1151 \@empty
1152 \else
1153 \ifnum#1<100000000 %
1154 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1155 \IntCalcDiv#1!10000!%
1156 !\}{20}%
1157 \CJk@tenthousand
1158 \expandafter\expandafter\expandafter\HyPsd@CJkNumberFour
1159 \IntCalcMod#1!10000!%
1160 !\CJk@zero{10}%
1161 \@empty

```

```

1162 \else
1163 \expandafter\HyPsd@CJKnumberLarge
1164 \number\IntCalcDiv#1!100000000!\expandafter!%
1165 \number\IntCalcMod#1!100000000!!%
1166 \fi
1167 \fi
1168 \fi
1169 }
1170 \def\HyPsd@CJKnumberLarge#1!#2!{%
1171 \HyPsd@CJKnumberFour#1!#2!%
1172 \CJK@hundredmillion
1173 \ifnum#2=\z@
1174 \else
1175 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1176 \IntCalcDiv#2!10000!%
1177 !\CJK@zero{10}%
1178 \CJK@tenthousand
1179 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1180 \IntCalcMod#2!10000!%
1181 !\CJK@zero{10}%
1182 \@empty
1183 \fi
1184 }
1185 \def\HyPsd@CJKnumberFour#1!#2#3{%
1186 \ifnum#1=\z@
1187 \expandafter\@gobble
1188 \else
1189 \ifnum#1<1000 %
1190 #2%
1191 \HyPsd@CJKnumberThree#1!#3!%
1192 \else
1193 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1194 \CJK@thousand
1195 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1196 \IntCalcMod#1!1000!%
1197 !\CJK@zero{10}%
1198 \fi
1199 \fi
1200 }
1201 \def\HyPsd@CJKnumberThree#1!#2#3{%
1202 \ifnum#1=\z@
1203 \else
1204 \ifnum#1<100 %
1205 #2%
1206 \HyPsd@CJKnumberTwo#1!#3!%
1207 \else
1208 \HyPsd@@@CJKnumber{\IntCalcDiv#1!100!}%
1209 \CJK@hundred
1210 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1211 \IntCalcMod#1!100!%
1212 !\CJK@zero{10}%
1213 \fi
1214 \fi
1215 }

```

```

1216 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1217   \ifnum#1=\z@
1218   \else
1219     \ifnum#1<#3 %
1220       #2%
1221       \HyPsd@@@CJKnumber{#1}%
1222     \else
1223       \HyPsd@@@CJKnumber{\IntCalcDiv#1!10!}%
1224       \CJK@ten
1225       \ifnum\IntCalcMod#1!10!=\z@
1226       \else
1227         \HyPsd@@@CJKnumber{\IntCalcMod#1!10!}%
1228       \fi
1229     \fi
1230   \fi
1231 }

1232 \def\HyPsd@CJKdigits#1{%
1233   \ifx*#1\relax
1234     \expandafter\HyPsd@@@CJKdigits\expandafter\CJK@zero
1235   \else
1236     \HyPsd@@@CJKdigits\CJK@null{#1}%
1237   \fi
1238 }

1239 \def\HyPsd@@@CJKdigits#1#2{%
1240   \ifx\#2\%
1241   \else
1242     \HyPsd@@@@CJKdigits#1#2\@nil
1243   \fi
1244 }%

1245 \def\HyPsd@@@@CJKdigits#1#2#3\@nil{%
1246   \HyPsd@CJKdigit#1{#2}%
1247   \ifx\#3\%
1248     \expandafter\@gobble
1249   \else
1250     \expandafter\@firstofone
1251   \fi
1252 }%

1253   \HyPsd@@@@CJKdigits#1#3\@nil
1254 }%
1255 }

1256 \def\HyPsd@CJKdigit#1#2{%
1257   \ifcase#2 %
1258     #1\or
1259     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1260     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1261   \fi
1262 }

```

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 (L^AT_EX 2_ε release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typeset-protect` (`=\relax`).

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@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}

1263 \def\HyPsd@inmathwarn#1#2{%
1264   \ifx#2\expandafter
1265     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1266       \HyPsd@GLYPHERR
1267       \expandafter\@gobble\string#1%
1268       >%
1269       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1270     \else
1271       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1272     \fi
1273   \else
1274     \expandafter#2%
1275   \fi
1276 }
1277 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
```

```
1278 \def\HyPsd@EndWithElse#1\else{\else}
```

\HyPsd@add@accent

```
1279 \def\HyPsd@add@accent#1#2{%
1280   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1281   #2%
1282 }%
```

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

These properties are used in \HyPsd@CheckCatcodes.

```
1283 \def\HyPsd@LetUnexpandableSpace#1{%
1284   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1285 }
```

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

```
1286 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.8 Marker for commands

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

```
1287 \edef\HyPsd@XSPACE{\string#\string X}
1288 \edef\HyPsd@ITALCORR{\string#\string I}
1289 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 \hspace fix

\HyPsd@hspace

```
1290 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1291 \def\HyPsd@@hspace#1*#2\END{%
1292   \ifx\#2\%
1293     \HyPsd@hspacetest{#1}%
1294   \else
1295     \expandafter\HyPsd@hspacetest
1296   \fi
1297 }
```

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

```
1298 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```

1299 \ltx@ifundefined{tocsection}{%
1300   \let\HyPsd@AMSclassfix\relax
1301 }{%
1302   \def\HyPsd@AMSclassfix{%
1303     \let\tocpart\HyPsd@tocsection
1304     \let\tocchapter\HyPsd@tocsection
1305     \let\tocappendix\HyPsd@tocsection
1306     \let\tocsection\HyPsd@tocsection
1307     \let\tocsubsection\HyPsd@tocsection
1308     \let\tocsubsubsection\HyPsd@tocsection
1309     \let\tocparagraph\HyPsd@tocsection
1310   }%
1311   \def\HyPsd@tocsection#1#2#3{%
1312     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1313     #3%
1314   }%
1315 }

```

6.5.11 Reference commands

`\HyPsd@href`

```

1316 \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.

```

1317 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1318 \def\HyPsd@@ref#1*#2\END{%
1319   \ifx\#2\%
1320     \HyPsd@@@ref{#1}%
1321   \else
1322     \expandafter\HyPsd@@@ref
1323   \fi
1324 }%

```

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

```

1325 \def\HyPsd@@@ref#1{%
1326   \expandafter\ifx\csname r@#1\endcsname\relax
1327     ??%
1328   \else
1329     \expandafter\expandafter\expandafter
1330     \@car\csname r@#1\endcsname\@nil
1331   \fi
1332 }

```

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

```

1333 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

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

```

1334 \def\HyPsd@@pageref#1*#2\END{%

```

```

1335 \ifx\|#2\|%
1336 \HyPsd@@@pageref{#1}%
1337 \else
1338 \expandafter\HyPsd@@@pageref
1339 \fi
1340 }

```

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

```

1341 \def\HyPsd@@@pageref#1{%
1342 \expandafter\ifx\csname r@#1\endcsname\relax
1343 ??%
1344 \else
1345 \expandafter\expandafter\expandafter\expandafter
1346 \expandafter\expandafter\expandafter\@car
1347 \expandafter\expandafter\expandafter\@gobble
1348 \csname r@#1\endcsname{}\@nil
1349 \fi
1350 }

```

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

```

1351 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1352 \def\HyPsd@@nameref#1*#2\END{%
1353 \ifx\|#2\|%
1354 \HyPsd@@@nameref{#1}%
1355 \else
1356 \expandafter\HyPsd@@@nameref
1357 \fi
1358 }

```

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

```

1359 \def\HyPsd@@@nameref#1{%
1360 \expandafter\ifx\csname r@#1\endcsname\relax
1361 ??%
1362 \else
1363 \expandafter\expandafter\expandafter\expandafter
1364 \expandafter\expandafter\expandafter\@car
1365 \expandafter\expandafter\expandafter\@gobbletwo
1366 \csname r@#1\endcsname{}\@nil
1367 \fi
1368 }

```

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

```

1369 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1370 \def\HyPsd@@autoref#1*#2\END{%
1371 \ifx\|#2\|%
1372 \HyPsd@@@autoref{#1}%
1373 \else

```

```

1374 \expandafter\HyPsd@@@autoref
1375 \fi
1376 }

```

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

```

1377 \def\HyPsd@@@autoref#1{%
1378 \expandafter\ifx\csname r@#1\endcsname\relax
1379 ??%
1380 \else
1381 \expandafter\expandafter\expandafter\HyPsd@autorefname
1382 \csname r@#1\endcsname\}\}\}\}\@nil
1383 \expandafter\expandafter\expandafter
1384 \@car\csname r@#1\endcsname\@nil
1385 \fi
1386 }

```

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

```

1387 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1388 \ifx\#4\%
1389 \else
1390 \HyPsd@@autorefname#4.\@nil
1391 \fi
1392 }

```

`\HyPsd@@autorefname`

```

1393 \def\HyPsd@@autorefname#1.#2\@nil{%
1394 \ltx@ifundefined{#1autorefname}{%
1395 \ltx@ifundefined{#1name}{%
1396 }{%
1397 \csname#1name\endcsname\space
1398 }%
1399 }{%
1400 \csname#1autorefname\endcsname\space
1401 }%
1402 }

```

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 causes 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 don'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 `\HyPsd@LetCommand` 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 unmachted `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\if-false` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1403 \begingroup
1404   \def\x#1#2{%
1405     \endgroup
1406     \let#1\def
1407     \def\HyPsd@DefCommand##1##2###{%
1408       #1%
1409       \expandafter\noexpand
1410       \csname\expandafter\@gobble\string##1\@empty\endcsname
1411       \@gobble
1412     }%
1413     \let#2\let
1414     \def\HyPsd@@LetCommand##1{%
1415       \expandafter\ifx\csname##1\expandafter\endcsname
1416         \csname iftrue\endcsname
1417         \pdfstringdefWarn\let
1418         \expandafter\@gobble
1419       \else
1420         \expandafter\ifx\csname##1\expandafter\endcsname
1421           \csname iffalse\endcsname
1422           \pdfstringdefWarn\let
1423           \expandafter\expandafter\expandafter\@gobble
1424         \else
1425           #2%
1426           \expandafter\noexpand
1427           \csname##1\expandafter\expandafter\expandafter\endcsname
1428         \fi
1429       \fi
1430     }%
1431   }%
1432   \expandafter\x\csname <def>-command\expandafter\endcsname
1433     \csname <let>-command\endcsname
1434   \def\HyPsd@LetCommand#1{%
1435     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1436     \expandafter\expandafter\expandafter{%
1437       \expandafter\@gobble\string#1\@empty
1438     }%
1439   }

```

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).

```
1440 \def\HyPsd@ifnextchar#1{%
1441   \pdfstringdefWarn#1%
1442   \expandafter\@gobbletwo\@gobble
1443 }
```

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`.

```
1444 \def\HyPsd@protected@testopt#1{%
1445   \pdfstringdefWarn#1%
1446   \@gobbletwo
1447 }
```

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:

```
1448 \def\HyPsd@Warning#1{%
1449   \begingroup
1450   \let\space\ltx@space
1451   \Hy@Warning{#1}%
1452   \endgroup
1453 }
```

6.6.2 Protecting spaces

`\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`.

```
1454 \let\HyPsd@fi\fi
```

```

1455 \def\HyPsd@ProtectSpaces#1{%
1456   \xdef#1{%
1457     \iftrue
1458       \expandafter\HyPsd@@ProtectSpacesFi
1459       \expandafter|\expandafter\@empty#1| %
1460     \HyPsd@fi
1461   }%
1462   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1463 }%

```

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

```

1464 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1465   \fi
1466   \unexpanded{#1}%
1467   \ifx\scrollmode#2\scrollmode
1468   \else
1469     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1470   \HyPsd@fi
1471 }%

```

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.

```

1472 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1473   \xdef#2{\unexpanded\expandafter{#1}}%
1474 }%

```

6.6.3 Remove grouping braces

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

```

1475 \def\HyPsd@RemoveBraces#1{%
1476   \ifx\scrollmode#1\scrollmode
1477   \else
1478     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1479   \fi
1480 }

```

`\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`.

```

1481 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%

```

```

1482 \fi
1483 \def\Hy@temp@A{#1#2}%
1484 \def\Hy@temp@B{#3}%
1485 \ifx\Hy@temp@A\Hy@temp@B
1486 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1487 \HyPsd@String#1%
1488 }%
1489 \ifx\scrollmode#2\scrollmode
1490 \else
1491 \Hy@ReturnAfterFiFiEnd{%
1492 \HyPsd@RemoveBraces{#2}%
1493 }%
1494 \fi
1495 \else
1496 \def\Hy@temp@A{#1}%
1497 \HyPsd@AppendItalcorr\HyPsd@String
1498 \ifx\Hy@temp@A\@empty
1499 \Hy@ReturnAfterElseFiFiEnd{%
1500 \HyPsd@RemoveBraces{#2}%
1501 }%
1502 \else
1503 \HyPsd@ProtectSpaces\Hy@temp@A
1504 \HyPsd@AppendItalcorr\Hy@temp@A
1505 \Hy@ReturnAfterFiFiEnd{%
1506 \expandafter\HyPsd@RemoveBraces\expandafter
1507 {\Hy@temp@A#2}%
1508 }%
1509 \fi
1510 \fi
1511 \Hy@ReturnEnd
1512 }

```

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

```

1513 \def\HyPsd@AppendItalcorr#1{%
1514 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1515 }
1516 \def\HyPsd@@AppendItalcorr#1#2{%
1517 \expandafter\def\expandafter#2\expandafter{#2#1}%
1518 }

```

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>.

```

1519 \ltx@ifundefined{directlua}{%
1520 }{%
1521 \expandafter\ifx\csname\endcsname\relax\fi
1522 }

```

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`.

```

1523 \begingroup
1524 \catcode`\Q=\active
1525 \let Q\ltx@empty
1526 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1527 \global\let\HyPsd@Rest\relax
1528 \ifcat\relax\noexpand#1\relax
1529 \ifx#1\protect
1530 \else
1531 \ifx#1\penalty
1532 \setbox\z@=\hbox{%
1533 \afterassignment\HyPsd@AfterCountRemove
1534 \count@=#2\HyPsd@End
1535 }%
1536 \else
1537 \ifx#1\kern
1538 \setbox\z@=\hbox{%
1539 \afterassignment\HyPsd@AfterDimenRemove
1540 \dimen@=#2\HyPsd@End
1541 }%
1542 \else
1543 \ifx#1\hskip
1544 \setbox\z@=\hbox{%
1545 \afterassignment\HyPsd@AfterSkipRemove
1546 \skip@=#2\HyPsd@End
1547 }%
1548 \else
1549 \HyPsd@CatcodeWarning{#1}%
1550 \fi
1551 \fi
1552 \fi
1553 \fi
1554 \else
1555 \ifcat\noexpand#1\noexpandQ% active character
1556 \expandafter\expandafter\expandafter\def
1557 \expandafter\expandafter\expandafter\HyPsd@String
1558 \expandafter\expandafter\expandafter{%
1559 \expandafter\HyPsd@String\string#1%
1560 }%
1561 \else
1562 \ifcat#1A% letter
1563 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1564     \HyPsd@String#1%
1565   }%
1566 \else
1567   \ifcat#1 % SPACE
1568     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1569       \HyPsd@String\HyPsd@SPACEOPTI
1570     }%
1571 \else
1572   \ifcat$#1%
1573     \HyPsd@CatcodeWarning{math shift}%
1574 \else
1575   \ifcat&#1%
1576     \HyPsd@CatcodeWarning{alignment tab}%
1577 \else
1578   \ifcat^#1%
1579     \HyPsd@CatcodeWarning{superscript}%
1580 \else
1581   \ifcat_#1%
1582     \HyPsd@CatcodeWarning{subscript}%
1583 \else
1584     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1585       \HyPsd@String#1%
1586     }%
1587   \fi
1588 \fi
1589 \fi
1590 \fi
1591 \fi
1592 \fi
1593 \fi
1594 \fi
1595 \ifx\HyPsd@Rest\relax
1596   \ifx\scrollmode#2\scrollmode
1597   \else
1598     \Hy@ReturnAfterFiFiEnd{%
1599       \HyPsd@CheckCatcodes#2\HyPsd@End
1600     }%
1601   \fi
1602 \else
1603   \ifx\HyPsd@Rest\@empty
1604   \else
1605     \Hy@ReturnAfterFiFiEnd{%
1606       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1607     }%
1608   \fi
1609 \fi
1610 \Hy@ReturnEnd
1611 }%
1612 \endgroup

```

Remove counts, dimens, skips.

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

```

1613 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%

```

```

1614 \gdef\HyPsd@Rest{#1}%
1615 }

```

\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.

```

1616 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1617 \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1618 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1619 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1620 \else
1621 \ifdim\dimen@=\z@
1622 \else
1623 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1624 \fi
1625 \gdef\HyPsd@Rest{#1}%
1626 \fi
1627 }

```

\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).

```

1628 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1629 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1630 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1631 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1632 \else
1633 \ifdim\skip@=\z@
1634 \else
1635 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1636 \fi
1637 \gdef\HyPsd@Rest{#1}%
1638 \fi
1639 }

```

Catcode warnings.

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

```

1640 \def\HyPsd@CatcodeWarning#1{%
1641 \HyPsd@Warning{%
1642 Token not allowed in a PDF string (%)
1643 \ifHy@unicode
1644 Unicode%
1645 \else
1646 PDFDocEncoding%
1647 \fi
1648 }:%
1649 \MessageBreak removing ``\HyPsd@RemoveCmdPrefix#1'%
1650 }%
1651 }
1652 \begingroup
1653 \catcode`\|=0 %
1654 \catcode`\|=12 %

```

```

1655 |gdef|HyPsd@RemoveCmdPrefix#1{%
1656   |expandafter|HyPsd@@RemoveCmdPrefix
1657   |string#1|@empty\<>-|@empty|@empty
1658 }%
1659 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1660 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1661 \def\HyPsd@RemoveSpaceWarning#1{%
1662   \HyPsd@Warning{%
1663     Token not allowed in a PDF string (%)
1664     \ifHy@unicode
1665       Unicode%
1666     \else
1667       PDFDocEncoding%
1668     \fi
1669   }:%
1670   \MessageBreak #1\MessageBreak
1671   removed%
1672 }%
1673 }

```

\HyPsd@ReplaceSpaceWarning

```

1674 \def\HyPsd@ReplaceSpaceWarning#1{%
1675   \HyPsd@Warning{%
1676     Token not allowed in a PDF string (%)
1677     \ifHy@unicode
1678       Unicode%
1679     \else
1680       PDFDocEncoding%
1681     \fi
1682   }:%
1683   \MessageBreak #1\MessageBreak
1684   replaced by space%
1685 }%
1686 }

```

6.6.5 Check for wrong glyphs

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

```

1687 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1688   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1689     \HyPsd@String#1%
1690   }%
1691   \ifx\#2\%
1692   \else
1693     \ltx@ReturnAfterFi{%
1694       \HyPsd@GlyphProcessWarning#2\@empty
1695     }%
1696   \fi
1697 }
1698 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1699   \HyPsd@@GlyphProcessWarning#1++>%

```



```

1700 \HyPsd@GlyphProcess#2\@empty
1701 }
1702 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1703 \ifx\\#2\\%
1704 \HyPsd@Warning{%
1705 Glyph not defined in %
1706 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1707 removing ` \@backslashchar#1'%
1708 }%
1709 \else
1710 \HyPsd@Warning{%
1711 Composite letter ` \@backslashchar#1+#2'\MessageBreak
1712 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1713 \MessageBreak
1714 removing ` \@backslashchar#1'%
1715 }%
1716 \fi
1717 }

```

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`.

```

1718 \def\HyPsd@spaceopti#1{ % first space
1719 \ifx\HyPsd@spaceopti#1%
1720 \040%
1721 \else
1722 #1%
1723 \fi
1724 }%

```

6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is a 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.

```

1725 \def\HyPsd@Subst#1#2#3{%
1726 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1727 \fi
1728 ##1%
1729 \ifx\scrollmode##2\scrollmode
1730 \else
1731 #2%
1732 \HyPsd@@ReplaceFi##2\END
1733 \fi
1734 }%
1735 \xdef#3{%
1736 \iftrue

```

```

1737 \expandafter\HyPsd@@ReplaceFi#3#1\END
1738 \fi
1739 }%
1740 }

```

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

```

1741 \def\HyPsd@StringSubst#1{%
1742 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1743 }

```

`\HyPsd@EscapeTeX`

```

1744 \begingroup
1745 \lccode`\!=`\%%
1746 \lccode`\|=`\%%
1747 \lccode`\(=\`\{%
1748 \lccode`\)=`\}%
1749 \lccode`0=\ltx@zero
1750 \lccode`1=\ltx@zero
1751 \lccode`3=\ltx@zero
1752 \lccode`4=\ltx@zero
1753 \lccode`5=\ltx@zero
1754 \lccode`7=\ltx@zero
1755 \lowercase{\endgroup
1756 \def\HyPsd@EscapeTeX#1{%
1757 \HyPsd@Subst!{|045}#1%
1758 \HyPsd@Subst({|173}#1%
1759 \HyPsd@Subst){|175}#1%
1760 }%
1761 }

```

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.

```

1762 \def\HyPsd@doxspace#1{%
1763 \ifx#1\relax\else
1764 \ifx#1.\else
1765 \ifx#1:\else
1766 \ifx#1,\else
1767 \ifx#1;\else
1768 \ifx#1!\else
1769 \ifx#1?\else
1770 \ifx#1/\else
1771 \ifx#1-\else
1772 \ifx#1'\else
1773 \HyPsd@SPACEOPTI
1774 \fi
1775 \fi
1776 \fi
1777 \fi

```

```

1778     \fi
1779     \fi
1780     \fi
1781     \fi
1782     \fi
1783     \fi
1784     #1%
1785 }%

```

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.

```

1786 \begingroup
1787   \catcode`\|=0 %
1788   \catcode`\|=12 %

```

\HyPsd@ConvertToUnicode

```

1789 |gdef|HyPsd@ConvertToUnicode#1{%
1790   |xdef#1{%
1791     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1792   }%
1793   |ifx#1|@empty
1794   |else
1795     |xdef#1{%
1796       \376\377%
1797       #1%
1798     }%
1799   |fi
1800 }%

```

\HyPsd@DoConvert

```

1801 |gdef|HyPsd@DoConvert#1{%
1802   |ifx#1|@empty
1803   |else
1804     |ltx@ReturnAfterFi{%
1805       |ifx#1\%%
1806       \%%
1807       |expandafter|HyPsd@DoEscape
1808     |else
1809       |HyPsd@Char{#1}%
1810     |expandafter|HyPsd@DoConvert
1811   |fi
1812 }%
1813 |fi
1814 }%

```

\HyPsd@DoEscape

```

1815 |gdef|HyPsd@DoEscape#1{%
1816   |ifx#19%
1817   |expandafter|HyPsd@GetTwoBytes
1818   |else

```

```

1819 |ltx@ReturnAfterFi{%
1820 |ifx#18%
1821 00%
1822 |expandafter|HyPsd@GetTwoBytes
1823 |else
1824 #1%
1825 |expandafter|HyPsd@GetOneByte
1826 |fi
1827 }%
1828 |fi
1829 }%

```

\HyPsd@GetTwoBytes

```

1830 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1831 #1\#2#3#4%
1832 |HyPsd@DoConvert
1833 }%

```

\HyPsd@GetOneByte

```

1834 |gdef|HyPsd@GetOneByte#1#2{%
1835 #1#2%
1836 |HyPsd@DoConvert
1837 }%
1838 |endgroup

```

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

```

1839 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1840 \xdef#4{#4#1#2}%
1841 \HyPsd@@ConvertToUnicode#3\END#4%
1842 }

```

\HyPsd@Char

```

1843 \begingroup
1844 \catcode0=9 %
1845 \catcode`\^=7 %
1846 \catcode`\^^=12 %
1847 \def\x{^^^^0000}%
1848 \expandafter\endgroup
1849 \ifx\x\@empty
1850 \def\HyPsd@Char#1{%
1851 \ifnum`#1<128 %
1852 \@backslashchar 000#1%
1853 \else
1854 \ifnum`#1<65536 %
1855 \expandafter\HyPsd@CharTwoByte\number`#1!%
1856 \else
1857 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1858 \intcalcSub{`#1}-{65536}!%
1859 \fi
1860 \fi
1861 }%
1862 \def\HyPsd@CharTwoByte#1!{%
1863 \expandafter\expandafter\expandafter\HyPsd@CharOctByte

```

```

1864 \IntCalcDiv#1!256!!%
1865 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1866 \IntCalcMod#1!256!!%
1867 }%
1868 \def\HyPsd@CharOctByte#1!{%
1869 \@backslashchar
1870 \IntCalcDiv#1!64!%
1871 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1872 \IntCalcMod#1!8!%
1873 }%
1874 \def\HyPsd@CharSurrogate#1!{%
1875 \@backslashchar 33%
1876 \IntCalcDiv#1!262144!%
1877 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1878 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1879 \@backslashchar 33%
1880 \expandafter\expandafter\expandafter\IntCalcAdd
1881 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1882 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1883 \IntCalcMod#1!256!!%
1884 }%
1885 \else
1886 \def\HyPsd@Char#1{%
1887 \@backslashchar 000#1%
1888 }%
1889 \fi

```

change 2022-02-21 For the case that utf8 chars are protected we need to expand them. This works only is \UTFviii@loop is not defined in a group, which will be the case in the new latex code, so we test for it.

```

1890 \ifcsname UTFviii@loop\endcsname
1891 \def\HyPsd@expand@utfvii{%
1892 \count@"C2
1893 \@tempcnta"F5
1894 \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1895 \UTFviii@loop
1896 }
1897 \else
1898 \def\HyPsd@expand@utfvii{}
1899 \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

```

```

1900 \begingroup
1901 \lccode\~=\^^f4\relax
1902 \lowercase{\endgroup
1903 \def\HyPsd@UTFviii{%
1904   \HyPsd@expand@utfvii
1905   \let\UTFviii@two@octets\HyPsd@UTFviii@two
1906   \let\UTFviii@three@octets\HyPsd@UTFviii@three
1907   \let\UTFviii@four@octets\HyPsd@UTFviii@four
1908   \ifx~\HyPsd@UTFviii@ccxliv@undef
1909     \let~\HyPsd@UTFviii@ccxliv@def
1910   \fi
1911   \let\unichar\HyPsd@unichar
1912 }%
1913 }%
1914 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1915 \edef\HyPsd@UTFviii@ccxliv@def{%
1916   \noexpand\UTFviii@four@octets\string ~^^f4%
1917 }%

```

The two octet form of UTF-8 110aaabb (A) and 10cccd (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.

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

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

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

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

$$(5)$$

```

1918 \def\HyPsd@UTFviii@two#1#2{%
1919   \expandafter\HyPsd@UTFviii@@two
1920   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1921   \number`#1\expandafter|
1922   \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|
1923   \number`#2 \@nil
1924 }%
1925 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1926   \expandafter\8%
1927   \number\numexpr #1-48\expandafter\relax
1928   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1929   \number\numexpr #3-8*%
1930   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1931   \number\numexpr #4-8*#3\relax
1932 }%

```

Three octet form: 1110aabb (A), 10bcccd (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)

```

1933 \def\HyPsd@UTFviii@three#1#2#3{%
1934 \expandafter\HyPsd@UTFviii@@three
1935 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter| %
1936 \number`#1\expandafter| %
1937 \number\ifnum\dimexpr`#2-128\relax <32 0\else 1\fi\expandafter| %
1938 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter| %
1939 \number`#2\expandafter| %
1940 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter| %
1941 \number`#3 \@nil
1942 }%
1943 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1944 \expandafter\9%
1945 \number\dimexpr #1-56\expandafter\relax
1946 \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1947 \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1948 \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1949 \number\dimexpr #6-16\expandafter\relax
1950 \number\dimexpr #7-8*#6\relax
1951 }%

```

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

```

```

1952 \def\HyPsd@UTFviii@four#1#2{%
1953 \expandafter\HyPsd@@UTFviii@four\number
1954 \dimexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1955 \expandafter|\number
1956 \dimexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
1957 }%
1958 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1959 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1960 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1961 \ifodd#2 %
1962 \number\dimexpr(#2-1)/2\relax
1963 \else
1964 \number\dimexpr#2/2\relax
1965 \fi
1966 \number\dimexpr\ifodd#2 4+\fi
1967 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1968 \933%
1969 \expandafter\HyPsd@@@UTFviii@four\number
1970 \dimexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
1971 }%
1972 \def\HyPsd@@@UTFviii@four#1|#2{%
1973 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1974 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1975 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax

```

```

1976 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1977 }%

```

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

```

1978 \def\HyPsd@unichar#1{%
1979 \ifHy@unicode
1980 \ifnum#1>"10FFFF %
1981 \HyPsd@UnicodeReplacementCharacter % illegal
1982 \else
1983 \ifnum#1>"FFFF %

```

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

```

1984 \expandafter\HyPsd@unichar\expandafter{%
1985 \number\numexpr 55296+%
1986 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1987 \relax\relax\relax
1988 }%

```

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

```

1989 \expandafter\HyPsd@unichar\expandafter{%
1990 \number\numexpr#1-9216%
1991 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1992 \relax\relax\relax
1993 }%
1994 \else
1995 \ifnum#1>"7FF %
1996 \9%
1997 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1998 \number
1999 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2000 }%
2001 \else
2002 \8%
2003 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2004 \fi
2005 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2006 \number
2007 \numexpr#1-256*\number
2008 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2009 }%
2010 \fi
2011 \fi
2012 \else
2013 .% unsupported (Unicode -> PDF Doc Encoding)
2014 \fi
2015 }%
2016 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2017 \def\HyPsd@unichar@first@byte#1{%
2018 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2019 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2020 \number
2021 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2022 \relax\relax\relax
2023 }%

```



```

2024 }%
2025 \def\HyPsd@unichar@second@byte#1{%
2026   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2027   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2028     \number
2029     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2030     \relax\relax\relax
2031   }%
2032 }%
2033 \def\HyPsd@unichar@octtwo#1{%
2034   \number\dimexpr.125\dimexpr#1sp\relax\relax
2035   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2036   \relax\relax\relax
2037 }%

```

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

```

2038 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2039   \ifx\@gobble#1%
2040   \else
2041     [Please insert \textbackslash PrerenderUnicode%
2042     \textbraceleft#1\textbraceright\space
2043     into preamble]%
2044   \fi
2045 }%

```

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

\HyPsd@DieFace Die faces are provided by

Package	Macro
ifsym	\Cube
epsdice	\epsdice
hhcount	\fcdice

\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.

```

2046 \def\HyPsd@DieFace#1{%
2047   \ifHy@unicode
2048   \ifnum#1<1 %
2049     \HyPsd@UnicodeReplacementCharacter
2050   \else
2051     \ifnum#1>6 %
2052       \9046\205%
2053       \expandafter\expandafter\expandafter
2054       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2055     \else
2056       \9046\20\intcalcDec{#1}%
2057     \fi
2058   \fi
2059 \else
2060   .% Die faces are not part of PDFDocEncoding
2061 \fi
2062 }

```

\HyPsd@DieFaceLarge

```
2063 \def\HyPsd@DieFaceLarge#1!{%
2064   \ifnum#1>6 %
2065     \expandafter\ltx@firstoftwo
2066   \else
2067     \expandafter\ltx@secondoftwo
2068   \fi
2069   {%
2070     \9046\205%
2071     \expandafter\expandafter\expandafter
2072     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2073   }{%
2074     \9046\20\IntCalcDec#1!%
2075   }%
2076 }
```

6.6.11 Support for moon phases of package china2e

```
2077 \def\HyPsd@MoonPha#1{%
2078   \ifcase\intcalcNum{#1} %
2079     \HyPsd@UnicodeReplacementCharacter
2080   \or % 1
2081   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2082   \9330\074\9337\032%
2083   \or % 2
2084   \HyPsd@UnicodeReplacementCharacter
2085   \or % 3
2086   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2087   \9330\074\9337\035%
2088   \or % 4
2089   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2090   \9330\074\9337\034%
2091   \else
2092     \HyPsd@UnicodeReplacementCharacter
2093   \fi
2094 }
2095 %* \HyPsd@MoonPha -> \MoonPha
```

6.6.12 Support for package pifont

\HyPsd@ding

```
2096 \def\HyPsd@ding#1{%
2097   \ifHy@unicode
2098     \ifnum#1<32 %
2099       \HyPsd@UnicodeReplacementCharacter
2100     \else
2101       \ifnum#1>254 %
2102         \HyPsd@UnicodeReplacementCharacter
2103       \else
2104         \ifnum#1<127 %
2105           \expandafter\expandafter\expandafter
2106           \HyPsd@@@ding\intcalcNum{#1}!%
2107         \else
2108           \ifnum#1>160 %
```

```

2109         \expandafter\expandafter\expandafter
2110         \HyPsd@@ding\intcalcNum{#1}!%
2111     \else
2112         \HyPsd@UnicodeReplacementCharacter
2113     \fi
2114 \fi
2115 \fi
2116 \fi
2117 \else
2118     .% Dingbats are not part of PDFDocEncoding
2119 \fi
2120 }

```

\HyPsd@@ding

```

2121 \def\HyPsd@@ding#1!{%
2122     \ltx@ifundefined{HyPsd@ding@#1}{%
2123         \ifnum#1<127 %
2124             \9047%
2125             \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2126         \else
2127             \ifnum#1<168 %
2128                 \9047\14\IntCalcSub#1!160!%
2129             \else
2130                 \ifnum#1>181 %
2131                     \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2132                 \else
2133                     % 172..181 -> U+2460..U+2469
2134                     \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2135                 \fi
2136             \fi
2137         \fi
2138     }{%
2139         \csname HyPsd@ding@#1\endcsname
2140     }%
2141 }

2142 \@namedef{HyPsd@ding@32}{\space}
2143 % U+260E BLACK TELEPHONE
2144 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2145 % U+261B BLACK RIGHT POINTING INDEX
2146 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2147 % U+261E WHITE RIGHT POINTING INDEX
2148 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2149 % U+2605 BLACK STAR
2150 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2151 % U+25CF BLACK CIRCLE
2152 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2153 % U+25A0 BLACK SQUARE
2154 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2155 % U+25B2 BLACK UP-POINTING TRIANGLE
2156 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2157 % U+25BC BLACK DOWN-POINTING TRIANGLE
2158 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2159 % U+25C6 BLACK DIAMOND

```

```

2160 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2161 % U+25D7 RIGHT HALF BLACK CIRCLE
2162 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2163 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2164 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2165 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2166 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2167 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2168 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2169 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2170 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

7 Support of other packages

7.1 Package subfigure

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

```

2171 \@ifpackageloaded{subfigure}{%
2172   \ltx@ifundefined{sub@label}{%
2173     \Hy@hypertextnamesfalse
2174   }{%
2175     \renewcommand*{\sub@label}[1]{%
2176       \@bsphack
2177       \subfig@oldlabel{#1}%
2178       \if@filesw
2179         \begingroup
2180           \edef\@currentlabstr{%
2181             \expandafter\strip@prefix\meaning\@currentlabelname
2182           }%
2183           \protected@write\@auxout{}{%
2184             \string\newlabel{sub@#1}{%
2185               {\@nameuse{@@thesub}\@captive}}%
2186             {\thepage}%
2187             {%
2188               \expandafter\strip@period\@currentlabstr
2189               \relax.\relax\@@@%
2190             }%
2191             {\@currentHref}%
2192             {}%
2193           }%
2194         }%
2195       \endgroup
2196     \fi
2197     \@esphack
2198   }%
2199 }%
2200 }{}

```

7.2 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:

```

2201 \let\IfUndefined{XR@addURL}{}%
2202 }{%

```

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.

```

2203 \def\XR@addURL#1{\XR@@dURL#1{}{}{}\\}%
2204 \def\XR@@dURL#1#2#3#4#5\\{%
2205   {#1}{#2}%
2206   \if!#4!%
2207   \else
2208     {#3}{#4}{\XR@URL}%
2209   \fi
2210 }%
2211 }

2212 \def\Hy@true{true}
2213 \def\Hy@false{false}

```

Providing dummy definitions.

```

2214 \let\literalps@out\@gobble
2215 \newcommand\pdfbookmark[3]{}
2216 \def\Acrobatmenu#1#2{\leavevmode#2}
2217 \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

```

2218 \let\HyperRaiseLinkHook\@empty
2219 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2220 \newcount\Hy@SavedSpaceFactor
2221 \def\Hy@SaveSpaceFactor{%
2222   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@
2223 }
2224 \def\Hy@RestoreSpaceFactor{%
2225   \relax
2226   \ifhmode
2227     \ifnum\Hy@SavedSpaceFactor>\z@
2228       \spacefactor=\Hy@SavedSpaceFactor
2229     \fi
2230   \fi
2231 }

```

```

2232 \def\Hy@SaveSavedSpaceFactor{%
2233 \edef\Hy@RestoreSavedSpaceFactor{%
2234 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2235 }%
2236 }
2237 \def\Hy@raisedlink#1{%
2238 \ifvmode
2239 #1%
2240 \else
2241 \Hy@SaveSpaceFactor
2242 \penalty\@M
2243 \smash{%
2244 \begingroup
2245 \let\HyperRaiseLinkLength\@tempdima
2246 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2247 \HyperRaiseLinkHook
2248 \expandafter\endgroup
2249 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2250 \Hy@RestoreSpaceFactor
2251 #1%
2252 \Hy@SaveSpaceFactor
2253 }%
2254 }%
2255 \Hy@RestoreSpaceFactor
2256 \fi
2257 }

```

\Hy@SaveLastskip Inserting a \special command to set a destination destroys the \lastskip value.
\Hy@RestoreLastskip

```

2258 \def\Hy@SaveLastskip{%
2259 \let\Hy@RestoreLastskip\relax
2260 \ifvmode
2261 \ifdim\lastskip=\z@
2262 \ifnum\lastnodetype=1 %
2263 \let\Hy@RestoreLastskip\relax
2264 \else
2265 \let\Hy@RestoreLastskip\nobreak
2266 \fi
2267 \else
2268 \begingroup
2269 \skip@=-\lastskip
2270 \edef\x{%
2271 \endgroup
2272 \def\noexpand\Hy@RestoreLastskip{%
2273 \noexpand\ifvmode
2274 \noexpand\nobreak
2275 \vskip\the\skip@
2276 \vskip\the\lastskip\relax
2277 \noexpand\fi
2278 }%
2279 }%
2280 \x
2281 \fi
2282 \else
2283 \ifhmode

```

```

2284 \ifdim\lastskip=\z@
2285 \let\Hy@RestoreLastskip\nobreak
2286 \else
2287 \begingroup
2288 \skip@=-\lastskip
2289 \edef\x{%
2290 \endgroup
2291 \def\noexpand\Hy@RestoreLastskip{%
2292 \noexpand\ifhmode
2293 \noexpand\nobreak
2294 \hskip\the\skip@
2295 \hskip\the\lastskip\relax
2296 \noexpand\fi
2297 }%
2298 }%
2299 \x
2300 \fi
2301 \fi
2302 \fi
2303 }%

```

9 Options

```

2304 \SetupKeyvalOptions{%
2305 family=Hyp,%
2306 prefix=HyOpt%
2307 }

```

9.1 Help macros

Package like hyperxmp want to retrieve the value of keys like `pdfauthor`. To avoid that we have two parallel interfaces we provide the interface from the `pdfmanagement/ltdocinit` if it doesn't exist.

```

\AddToDocumentProperties
\GetDocumentProperties
2308 \ExplSyntaxOn
2309 \@ifundefined{AddToDocumentProperties}
2310 {
2311 \prop_new:N \g__hyp_documentproperties_prop
2312 \NewDocumentCommand\AddToDocumentProperties{O{\@currname}mm}
2313 {
2314 \exp_args:NNx
2315 \prop_gput:Nnn \g__hyp_documentproperties_prop
2316 {
2317 \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2318 }
2319 { #3}
2320 }
2321 \NewExpandableDocumentCommand\GetDocumentProperties{m}
2322 {
2323 \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2324 }
2325 }{}
2326 \ExplSyntaxOff

```

\IfHyperBooleanExists

```
2327 \def\IfHyperBooleanExists#1{%
2328   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2329     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2330   }%
2331 }

2332 \@namedef{KV@Hyp@stoppeearly@default}{{}}
```

\IfHyperBoolean

```
2333 \def\IfHyperBoolean#1{%
2334   \IfHyperBooleanExists{#1}{%
2335     \csname ifHy@#1\endcsname
2336     \expandafter\ltx@firstoftwo
2337   \else
2338     \expandafter\ltx@secondoftwo
2339   \fi
2340 } \ltx@secondoftwo
2341 }
```

\Hy@boolkey

```
2342 \def\Hy@boolkey#1#2{%
2343   \edef\Hy@tempa{#2}%
2344   \lowercase\expandafter{%
2345     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2346   }%
2347   \ifx\Hy@tempa\@empty
2348     \let\Hy@tempa\Hy@true
2349   \fi
2350   \ifx\Hy@tempa\Hy@true
2351   \else
2352     \ifx\Hy@tempa\Hy@false
2353     \else
2354       \let\Hy@tempa\relax
2355     \fi
2356   \fi
2357   \ifx\Hy@tempa\relax
2358     \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2359   \else
2360     \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2361     \csname Hy@#1\Hy@tempa\endcsname
2362   \fi
2363 }
```

\Hy@WarnOptionValue

```
2364 \def\Hy@WarnOptionValue#1#2#3{%
2365   \Hy@Warning{%
2366     Unexpected value `#1'\MessageBreak
2367     of option `#2' instead of\MessageBreak
2368     #3%
2369   }%
2370 }
```


\Hy@DisableOption

```
2371 \def\Hy@DisableOption#1{%
2372   \ltx@ifundefined{KV@Hyp@#1@default}{%
2373     \define@key{Hyp}{#1}%
2374   }{%
2375     \define@key{Hyp}{#1}[]%
2376   }%
2377   {\Hy@WarnOptionDisabled{#1}}%
2378 }
2379
```

\Hy@WarnOptionDisabled

```
2380 \def\Hy@WarnOptionDisabled#1{%
2381   \Hy@Warning{%
2382     Option `#1' has already been used,\MessageBreak
2383     setting the option has no effect%
2384   }%
2385 }
```

\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.

```
2386 \def\Hy@CheckOptionValue#1#2#3{%
2387   \begingroup
2388   \edef\x{#1}%
2389   \@onelevel@sanitize\x
2390   \let\y=y%
2391   \def\do##1##2{%
2392     \def\z{##1}%
2393     \@onelevel@sanitize\z
2394     \ifx\x\z
2395       \let\y=n%
2396       \let\do\@gobbletwo
2397     \fi
2398   }%
2399   #3%
2400   \ifx\y y%
2401     \def\do##1##2{%
2402       *`##1'%
2403       \ifx\##2\\\else\space(##2)\fi
2404       \MessageBreak
2405     }%
2406     \Hy@Warning{%
2407       Values of option `#2':\MessageBreak
2408       #3%
2409       * An empty value disables the option.\MessageBreak
2410       Unknown value `x'%
2411     }%
2412   \fi
2413 \endgroup
2414 }
```

\Hy@DefNameKey #1: option name

#2: \do list with known values, first argument of \do is value, second argument

is a comment.

```
2415 \def\Hy@DefNameKey#1{%
2416   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2417 }
```

\Hy@@DefNameKey #1: macro for value storage

#2: option name

#3: \do list with known values.

```
2418 \def\Hy@@DefNameKey#1#2#3{%
2419   \define@key{Hyp}{#2}{%
2420     \edef#1{##1}%
2421     \ifx#1\@empty
2422     \else
2423       \Hy@CheckOptionValue{##1}{#2}{#3}%
2424     \fi
2425   }%
2426   \let#1\@empty
2427 }
```

\Hy@UseNameKey

```
2428 \def\Hy@UseNameKey#1#2{%
2429   \ifx#2\@empty
2430   \else
2431     /#1/#2%
2432   \fi
2433 }
```

9.2 Defining the options

```
2434 \define@key{Hyp}{implicit}[true]{%
2435   \Hy@boolkey{implicit}{#1}%
2436 }
2437 \define@key{Hyp}{draft}[true]{%
2438   \Hy@boolkey{draft}{#1}%
2439 }
2440 \define@key{Hyp}{final}[true]{%
2441   \Hy@boolkey{final}{#1}%
2442 }
2443 \let\KV@Hyp@nolinks\KV@Hyp@draft
2444 \def\Hy@ObsoletePaperOption#1{%
2445   \Hy@WarningNoLine{%
2446     Option `#1' is no longer used%
2447   }%
2448   \define@key{Hyp}{#1}[true]{}%
2449 }
2450 \def\Hy@temp#1{%
2451   \define@key{Hyp}{#1}[true]{%
2452     \Hy@ObsoletePaperOption{#1}%
2453   }%
2454 }
2455 \Hy@temp{a4paper}
2456 \Hy@temp{a5paper}
2457 \Hy@temp{b5paper}
```

```

2458 \Hy@temp{letterpaper}
2459 \Hy@temp{legalpaper}
2460 \Hy@temp{executivepaper}

2461 \define@key{Hyp}{setpagesize}[true]{%
2462   \Hy@boolkey{setpagesize}{#1}%
2463 }
2464 \define@key{Hyp}{debug}[true]{%
2465   \Hy@boolkey{debug}{#1}%
2466 }
2467 \define@key{Hyp}{linktopage}[true]{%
2468   \Hy@boolkey{linktopage}{#1}%
2469   \ifHy@linktopage
2470     \let\Hy@linktoc\Hy@linktoc@page
2471   \else
2472     \let\Hy@linktoc\Hy@linktoc@section
2473   \fi
2474 }
2475 \chardef\Hy@linktoc@none=0 %
2476 \chardef\Hy@linktoc@section=1 %
2477 \chardef\Hy@linktoc@page=2 %
2478 \chardef\Hy@linktoc@all=3 %
2479 \ifHy@linktopage
2480   \let\Hy@linktoc\Hy@linktoc@page
2481 \else
2482   \let\Hy@linktoc\Hy@linktoc@section
2483 \fi
2484 \define@key{Hyp}{linktoc}{%
2485   \@ifundefined{Hy@linktoc@#1}{%
2486     \Hy@Warning{%
2487       Unexpected value `#1' of \MessageBreak
2488       option `linktoc' instead of `none', \MessageBreak
2489       `section', `page' or `all'%
2490     }%
2491   }{%
2492     \expandafter\let\expandafter\Hy@linktoc
2493     \csname Hy@linktoc@#1\endcsname
2494   }%
2495 }
2496 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2497 \let\XR@ext\relax
2498 \define@key{Hyp}{verbose}[true]{%
2499   \Hy@boolkey{verbose}{#1}%
2500 }

```

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.

```

2501 \define@key{Hyp}{raiselinks}[true]{%
2502   \Hy@boolkey{raiselinks}{#1}%
2503 }

```

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

```

2504 \def\Hy@setbreaklinks#1{%
2505   \csname breaklinks#1\endcsname

```

```

2506 }
2507 \def\Hy@breaklinks@unsupported{%
2508   \ifx\Hy@setbreaklinks\@gobble
2509     \ifHy@breaklinks
2510       \Hy@WarningNoLine{%
2511         You have enabled option `breaklinks'.\MessageBreak
2512         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2513         Expect trouble with the link areas of broken links%
2514       }%
2515     \fi
2516   \fi
2517 }

2518 \define@key{Hyp}{breaklinks}[true]{%
2519   \Hy@boolkey{breaklinks}{#1}%
2520   \let\Hy@setbreaklinks\@gobble
2521 }

2522 \define@key{Hyp}{localanchorname}[true]{%
2523   \Hy@WarningNoLine{%
2524     Option `localanchorname' is deprecated%
2525   }%
2526   \Hy@boolkey{localanchorname}{#1}%
2527 }

Determines whether an automatic anchor is put on each page
2528 \define@key{Hyp}{pageanchor}[true]{%
2529   \Hy@boolkey{pageanchor}{#1}%
2530 }

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.
2531 \define@key{Hyp}{plainpages}[true]{%
2532   \Hy@boolkey{plainpages}{#1}%
2533 }

Are the names for anchors made as per the HyperTeX system, or do they simply
use what LATEX provides?
2534 \define@key{Hyp}{naturalnames}[true]{%
2535   \Hy@boolkey{naturalnames}{#1}%
2536 }

Completely ignore the names as per the HyperTeX system, and use unique coun-
ters.
2537 \define@key{Hyp}{hypertexnames}[true]{%
2538   \Hy@boolkey{hypertexnames}{#1}%
2539 }

Currently, dvips doesn't allow anchors nested within targets, so this option tries
to stop that happening. Other processors may be able to cope.
2540 \define@key{Hyp}{nesting}[true]{%
2541   \Hy@boolkey{nesting}{#1}%
2542 }

2543 \define@key{Hyp}{destlabel}[true]{%
2544   \Hy@boolkey{destlabel}{#1}%
2545 }

2546 \define@key{Hyp}{unicode}[true]{%

```

```

2547 \Hy@boolkey{unicode}{#1}%
2548 \ifHy@unicode
2549   \def\HyPsd@pdfencoding{unicode}%
2550   \HyPsd@LoadUnicode
2551 \else
2552   \def\HyPsd@pdfencoding{pdfdoc}%
2553 \fi
2554 }
2555 \Hy@AtBeginDocument{%
2556   \ifx\HyPsd@LoadUnicode\relax
2557   \else
2558     \def\HyPsd@LoadUnicode{%
2559       \Hy@Error{%
2560         Unicode support for bookmarks is not available.\MessageBreak
2561         Activate unicode support by using one of the options\MessageBreak
2562         `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2563         in the preamble%
2564       } \@ehc
2565       \global\let\HyPsd@LoadUnicode\relax
2566       \global\Hy@unicodedefalse
2567       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2568     }%
2569   \fi
2570 }
2571 \define@key{Hyp}{pdfencoding}{%
2572   \edef\HyPsd@temp{#1}%
2573   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2574     \let\HyPsd@pdfencoding\HyPsd@temp
2575     \Hy@unicodedefalse
2576   \else
2577     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2578       \z@
2579     \else
2580       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2581         \z@
2582       \else
2583         \@ne
2584       \fi
2585     \fi
2586     \let\HyPsd@pdfencoding\HyPsd@temp
2587     \hypersetup{unicode}%
2588     \ifHy@unicode
2589       \def\HyPsd@pdfencoding{#1}%
2590       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2591         \HyPsd@LoadStringEncoding
2592       \fi
2593     \else
2594       \Hy@Warning{Cannot switch to unicode bookmarks}%
2595       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2596     \fi
2597   \else
2598     \@onelevel@sanitize\HyPsd@temp
2599     \Hy@Warning{%
2600       Values of option `pdfencoding':\MessageBreak

```

```

2601     `pdfdoc', `unicode', `auto'.\MessageBreak
2602     Ignoring unknown value `\'HyPsd@temp'%
2603     }%
2604     \fi
2605     \fi
2606 }
2607 \def\HyPsd@pdfencoding@auto{auto}
2608 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2609 \def\HyPsd@pdfencoding@unicode{unicode}

```

change 2020-08-14, use unicode by default:

```

2610 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2611 \HyPsd@LoadUnicode
2612 \def\HyPsd@LoadStringEnc{%
2613   \RequirePackage{stringenc}[2009/12/15]%
2614   \let\HyPsd@LoadStringEnc\relax
2615 }
2616 \Hy@AtBeginDocument{%
2617   \@ifpackageloaded{stringenc}{%
2618     \let\HyPsd@LoadStringEnc\relax
2619   }{%
2620     \def\HyPsd@LoadStringEnc{%
2621       \Hy@WarningNoLine{%
2622         Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2623         in the preamble or load the package there%
2624       }%
2625     }%
2626   }%
2627 }
2628 \define@key{Hyp}{psdextra}[true]{%
2629   \Hy@boolkey{psdextra}{#1}%
2630   \HyPsd@LoadExtra
2631 }
2632 \def\hypersetup{\kvsetkeys{Hyp}}
2633 \newif\ifHy@setpdfversion
2634 \define@key{Hyp}{pdfversion}{%
2635   \@ifundefined{Hy@pdfversion@#1}{%
2636     \PackageWarning{hyperref}{%
2637       Unsupported PDF version `#1'.\MessageBreak
2638       Valid values: 1.2-1.7, 2.0%
2639     }%
2640   }{%
2641     \Hy@setpdfversiontrue
2642     \@nameuse{Hy@pdfversion@#1}%
2643   }%
2644 }

```

\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or \pdfvariable majorversion} so introduce new names here.

```

2645 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{2}}%
2646 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
    norversion{3}}%

```

```

2647 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
2648 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2649 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2650 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
2651 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
2652 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}
Legacy name, earlier releases assumed 1.x
2653 \let\Hy@pdfversion\Hy@pdf@minorversion
2654 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
2655 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}
if pdfminorversion is defined, make sure pdfmajorversion is too.
2656 \@ifundefined{pdfminorversion}{}{%
2657 \@ifundefined{pdfmajorversion}{}{%
2658 \newcount\pdfmajorversion
2659 \pdfmajorversion=1
2660 }-}%
2661 }
2662 \ifx\pdfmajorversion\undefined\else
2663 \def\Hy@pdfmajorversion{\pdfmajorversion}
2664 \fi

```

10 Options for different drivers

```

2665 \newif\ifHy@DviMode
2666 \let\Hy@DviErrMsg\ltx@empty
2667 \ifpdf
2668 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2669 \else
2670 \ifxetex
2671 \def\Hy@DviErrMsg{XeTeX is running}%
2672 \else
2673 \ifvtex
2674 \ifnum\OpMode=\z@
2675 \Hy@DviModetrue
2676 \else
2677 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2678 \fi
2679 \else
2680 \Hy@DviModetrue
2681 \fi
2682 \fi
2683 \fi
2684 \def\Hy@Opt@CheckDvi#1{%
2685 \ifHy@DviMode
2686 \expandafter\ltx@firstofone
2687 \else
2688 \Hy@Error{%

```

```

2689     Wrong DVI mode driver option `#1',\MessageBreak
2690     because \Hy@DviErrMsg
2691   }\@ehc
2692   \expandafter\ltx@gobble
2693 \fi
2694 }

2695 \DeclareVoidOption{tex4ht}{%
2696   \Hy@texhttrue
2697   \kvsetkeys{Hyp}{colorlinks=true}%
2698   \def\BeforeTeXIVht{\RequirePackage{color}}%
2699   \def\Hy@driver{htex4ht}%
2700   \def\MaybeStopEarly{%
2701     \Hy@Message{Stopped early}%
2702     \Hy@AtBeginDocument{%
2703       \PDF@FinishDoc
2704       \gdef\PDF@FinishDoc{}%
2705     }%
2706   \endinput
2707 }%
2708 }

2709 \DeclareVoidOption{pdftex}{%
2710   \ifpdf
2711     \def\Hy@driver{hpdftex}%
2712     \PassOptionsToPackage{pdftex}{color}%
2713   \else
2714     \Hy@Error{%
2715       Wrong driver option `pdftex',\MessageBreak
2716       because pdfTeX in PDF mode is not detected%
2717     }\@ehc
2718   \fi
2719 }

2720 \DeclareVoidOption{luatex}{%
2721   \ifpdf
2722     \ifx\pdfextension\@undefined
2723       \def\Hy@driver{hpdftex}%
2724       \PassOptionsToPackage{pdftex}{color}%
2725     \else
2726       \def\Hy@driver{hluatex}%
2727       \PassOptionsToPackage{luatex}{color}%
2728     \fi
2729   \else
2730     \Hy@Error{%
2731       Wrong driver option `luatex',\MessageBreak
2732       because luaTeX in PDF mode is not detected%
2733     }\@ehc
2734   \fi
2735 }

2736 \DeclareVoidOption{nativepdf}{%
2737   \Hy@Opt@CheckDvi{nativepdf}{%
2738     \def\Hy@driver{hdvips}%
2739     \PassOptionsToPackage{dvips}{color}%
2740   }%
2741 }

2742 \DeclareVoidOption{dvipdfm}{%

```



```

2743 \HyOpt@CheckDvi{dvipdfm}{%
2744 \def\Hy@driver{hdvipdfm}%
2745 }%
2746 }
2747 \DeclareVoidOption{dvipdfmx}{%
2748 \HyOpt@CheckDvi{dvipdfmx}{%
2749 \def\Hy@driver{hdvipdfm}%
2750 \PassOptionsToPackage{dvipdfmx}{color}%
2751 }%
2752 }
2753 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2754 \expandafter\ifx\csname if#1\expandafter\endcsname
2755 \csname iftrue\endcsname
2756 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2757 \else
2758 \chardef\SpecialDvipdfmxOutlineOpen\z@
2759 \fi
2760 }
2761 \DeclareVoidOption{xetex}{%
2762 \ifxetex
2763 \def\Hy@driver{hxxetex}%
2764 \else
2765 \Hy@Error{%
2766 Wrong driver option `xetex',\MessageBreak
2767 because XeTeX is not detected%
2768 }\@ehc
2769 \fi
2770 }
2771 \DeclareVoidOption{pdfmark}{%
2772 \HyOpt@CheckDvi{pdfmark}{%
2773 \def\Hy@driver{hdvips}%
2774 }%
2775 }
2776 \DeclareVoidOption{dvips}{%
2777 \HyOpt@CheckDvi{dvips}{%
2778 \def\Hy@driver{hdvips}%
2779 \PassOptionsToPackage{dvips}{color}%
2780 }%
2781 }
2782 \DeclareVoidOption{hypertex}{%
2783 \HyOpt@CheckDvi{hypertex}{%
2784 \def\Hy@driver{hypertex}%
2785 }%
2786 }
2787 \let\Hy@MaybeStopNow\relax
2788 \DeclareVoidOption{vtex}{%
2789 \ifvtex
2790 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2791 \def\Hy@driver{hvtex}%
2792 \else
2793 \ifnum\OpMode=10\relax
2794 \def\Hy@driver{hvtexhtm}%
2795 \def\MaybeStopEarly{%
2796 \Hy@Message{Stopped early}%

```

```

2797     \Hy@AtBeginDocument{%
2798         \PDF@FinishDoc
2799         \gdef\PDF@FinishDoc{%}%
2800     }%
2801     \endinput
2802 }%
2803 \else
2804     \Hy@Error{%
2805         Wrong driver option `vtex',\MessageBreak
2806         because of wrong OpMode (\the\OpMode)%
2807     }\@ehc
2808 \fi
2809 \fi
2810 \else
2811     \Hy@Error{%
2812         Wrong driver option `vtex',\MessageBreak
2813         because VTeX is not running%
2814     }\@ehc
2815 \fi
2816 }
2817 \DeclareVoidOption{vtexpdfmark}{%
2818     \ifvtex
2819         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2820         \def\Hy@driver{hvtexmrk}%
2821     \else
2822         \Hy@Error{%
2823             Wrong driver option `vtexpdfmark',\MessageBreak
2824             because of wrong OpMode (\the\OpMode)%
2825         }\@ehc
2826     \fi
2827 \else
2828     \Hy@Error{%
2829         Wrong driver option `vtexpdfmark',\MessageBreak
2830         because VTeX is not running%
2831     }\@ehc
2832 \fi
2833 }
2834 \DeclareVoidOption{dviwindo}{%
2835     \HyOpt@CheckDvi{dviwindo}{%
2836         \def\Hy@driver{hdviwind}%
2837         \kvsetkeys{Hyp}{colorlinks}%
2838         \PassOptionsToPackage{dviwindo}{color}%
2839     }%
2840 }
2841 \DeclareVoidOption{dvipsone}{%
2842     \HyOpt@CheckDvi{dvipsone}{%
2843         \def\Hy@driver{hdvipson}%
2844         \PassOptionsToPackage{dvipsone}{color}%
2845     }%
2846 }
2847 \DeclareVoidOption{textures}{%
2848     \HyOpt@CheckDvi{textures}{%
2849         \def\Hy@driver{httexture}%
2850     }%

```

```

2851 }
2852 \DeclareVoidOption{latex2html}{}%
2853 \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2854   A current html.sty will do all necessary (re)definitions%
2855 }%
2856 }
2857 \DeclareVoidOption{hitex}{}%
2858 \ifhint
2859   \IfFileExists{hhitex.def}
2860     {\def\Hy@driver{hhitex}}}%
2861     {\Hy@Warning{%
2862       Missing driver file `hhitex.def',\MessageBreak
2863       ignoring hitex driver%
2864     }}%
2865   \else
2866     \Hy@Error{%
2867       Wrong driver option `hitex',\MessageBreak
2868       because HiTeX is not detected%
2869     }\@ehc
2870   \fi
2871 }

```

No more special treatment for ps2pdf. Let it sink or swim.

```

2872 \DeclareVoidOption{ps2pdf}{}%
2873 \HyOpt@CheckDvi{ps2pdf}{}%
2874   \def\Hy@driver{hdvips}%
2875   \PassOptionsToPackage{dvips}{color}%
2876 }%
2877 }
2878 \let\HyOpt@DriverFallback\ltx@empty
2879 \define@key{Hyp}{driverfallback}{}%
2880 \ifHy@DviMode
2881   \def\HyOpt@DriverFallback{#1}%
2882   \Hy@Match\HyOpt@DriverFallback{}{%
2883     ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2884       latex2html|tex4ht)$%
2885   }{}{%
2886     \Hy@Warning{%
2887       Invalid driver `#1' for option\MessageBreak
2888       `driverfallback'%
2889     }%
2890     \let\HyOpt@DriverFallback\ltx@empty
2891   }%
2892 \fi
2893 }
2894 \let\HyOpt@CustomDriver\ltx@empty
2895 \define@key{Hyp}{customdriver}{}%
2896 \IfFileExists{#1.def}{}%
2897   \def\HyOpt@CustomDriver{#1}%
2898 }{}{%
2899   \Hy@Warning{%
2900     Missing driver file `#1.def',\MessageBreak
2901     ignoring custom driver%
2902   }%

```

```

2903 }%
2904 }

```

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.

```

2905 \define@key{Hyp}{hyperfigures}[true]{%
2906   \Hy@boolkey{hyperfigures}{#1}%
2907 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2908 \define@key{Hyp}{hyperfootnotes}[true]{%
2909   \Hy@boolkey{hyperfootnotes}{#1}%
2910 }

```

Set up back-referencing to be hyper links, by page, slide or section number,

```

2911 \def\back@none{none}
2912 \def\back@section{section}
2913 \def\back@page{page}
2914 \def\back@slide{slide}
2915 \define@key{Hyp}{backref}[section]{%
2916   \lowercase{\def\Hy@tempa{#1}}%
2917   \ifx\Hy@tempa\@empty
2918     \let\Hy@tempa\back@section
2919   \fi
2920   \ifx\Hy@tempa\Hy@false
2921     \let\Hy@tempa\back@none
2922   \fi
2923   \ifx\Hy@tempa\back@slide
2924     \let\Hy@tempa\back@section
2925   \fi
2926   \ifx\Hy@tempa\back@page
2927     \PassOptionsToPackage{hyperpageref}{backref}%
2928     \Hy@backreftrue
2929   \else
2930     \ifx\Hy@tempa\back@section
2931       \PassOptionsToPackage{hyperref}{backref}%
2932       \Hy@backreftrue
2933     \else
2934       \ifx\Hy@tempa\back@none
2935         \Hy@backreffalse
2936       \else
2937         \Hy@WarnOptionValue{#1}{backref}{%
2938           `section', `slide', `page', `none',\MessageBreak
2939           or `false'}%
2940       \fi
2941     \fi
2942   \fi
2943 }
2944 \define@key{Hyp}{pagebackref}[true]{%
2945   \edef\Hy@tempa{#1}%
2946   \lowercase\expandafter{%
2947     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2948   }%

```

```

2949 \ifx\Hy@tempa\@empty
2950   \let\Hy@tempa\Hy@true
2951 \fi
2952 \ifx\Hy@tempa\Hy@true
2953   \PassOptionsToPackage{hyperpageref}{backref}%
2954   \Hy@backreftrue
2955 \else
2956   \ifx\Hy@tempa\Hy@false
2957     \Hy@backreffalse
2958   \else
2959     \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2960   \fi
2961 \fi
2962 }

```

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

```

2963 \define@key{Hyp}{hyperindex}[true]{%
2964   \Hy@boolkey{hyperindex}{#1}%
2965 }

```

Configuration of encap char.

```

2966 \define@key{Hyp}{encap}[|]{%
2967   \def\HyInd@EncapChar{#1}%
2968 }

```

12 Language options

The \autoref feature depends on the language.

```

2969 \def\HyLang@afrikaans{%
2970   \def\equationautorefname{Vergelyking}%
2971   \def\footnoteautorefname{Voetnota}%
2972   \def\itemautorefname{Item}%
2973   \def\figureautorefname{Figuur}%
2974   \def\tableautorefname{Tabel}%
2975   \def\partautorefname{Deel}%
2976   \def\appendixautorefname{Bylae}%
2977   \def\chapterautorefname{Hoofstuk}%
2978   \def\sectionautorefname{Afdeling}%
2979   \def\subsectionautorefname{Subafdeling}%
2980   \def\subsubsectionautorefname{Subsubafdeling}%
2981   \def\paragraphautorefname{Paragraaf}%
2982   \def\subparagraphautorefname{Subparagraaf}%
2983   \def\FancyVerbLineautorefname{Lyn}%
2984   \def\theoremautorefname{Teorema}%
2985   \def\pageautorefname{Bladsy}%
2986 }
2987 \def\HyLang@english{%
2988   \def\equationautorefname{Equation}%
2989   \def\footnoteautorefname{footnote}%
2990   \def\itemautorefname{item}%
2991   \def\figureautorefname{Figure}%
2992   \def\tableautorefname{Table}%
2993   \def\partautorefname{Part}%

```

```

2994 \def\appendixautorefname{Appendix}%
2995 \def\chapterautorefname{chapter}%
2996 \def\sectionautorefname{section}%
2997 \def\subsectionautorefname{subsection}%
2998 \def\subsubsectionautorefname{subsubsection}%
2999 \def\paragraphautorefname{paragraph}%
3000 \def\subparagraphautorefname{subparagraph}%
3001 \def\FancyVerbLineautorefname{line}%
3002 \def\theoremautorefname{Theorem}%
3003 \def\pageautorefname{page}%
3004 }
3005 \def\HyLang@french{%
3006 \def\equationautorefname{'equation}%
3007 \def\footnoteautorefname{note}%
3008 \def\itemautorefname{item}%
3009 \def\figureautorefname{figure}%
3010 \def\tableautorefname{tableau}%
3011 \def\partautorefname{partie}%
3012 \def\appendixautorefname{annexe}%
3013 \def\chapterautorefname{chapitre}%
3014 \def\sectionautorefname{section}%
3015 \def\subsectionautorefname{sous-section}%
3016 \def\subsubsectionautorefname{sous-sous-section}%
3017 \def\paragraphautorefname{paragraphe}%
3018 \def\subparagraphautorefname{sous-paragraphe}%
3019 \def\FancyVerbLineautorefname{ligne}%
3020 \def\theoremautorefname{th\'eor\`eme}%
3021 \def\pageautorefname{page}%
3022 }
3023 \def\HyLang@german{%
3024 \def\equationautorefname{Gleichung}%
3025 \def\footnoteautorefname{Fu\ss note}%
3026 \def\itemautorefname{Punkt}%
3027 \def\figureautorefname{Abbildung}%
3028 \def\tableautorefname{Tabelle}%
3029 \def\partautorefname{Teil}%
3030 \def\appendixautorefname{Anhang}%
3031 \def\chapterautorefname{Kapitel}%
3032 \def\sectionautorefname{Abschnitt}%
3033 \def\subsectionautorefname{Unterabschnitt}%
3034 \def\subsubsectionautorefname{Unterunterabschnitt}%
3035 \def\paragraphautorefname{Absatz}%
3036 \def\subparagraphautorefname{Unterabsatz}%
3037 \def\FancyVerbLineautorefname{Zeile}%
3038 \def\theoremautorefname{Theorem}%
3039 \def\pageautorefname{Seite}%
3040 }
3041 \def\HyLang@italian{%
3042 \def\equationautorefname{Equazione}%
3043 \def\footnoteautorefname{nota}%
3044 \def\itemautorefname{punto}%
3045 \def\figureautorefname{Figura}%
3046 \def\tableautorefname{Tabella}%
3047 \def\partautorefname{Parte}%

```

```

3048 \def\appendixautorefname{Appendice}%
3049 \def\chapterautorefname{Capitolo}%
3050 \def\sectionautorefname{sezione}%
3051 \def\subsectionautorefname{sottosezione}%
3052 \def\subsubsectionautorefname{sottosottosezione}%
3053 \def\paragraphautorefname{paragrafo}%
3054 \def\subparagraphautorefname{sottoparagrafo}%
3055 \def\FancyVerbLineautorefname{linea}%
3056 \def\theoremautorefname{Teorema}%
3057 \def\pageautorefname{Pag.\@}%
3058 }
3059 \def\HyLang@magyar{%
3060 \def\equationautorefname{Egyenlet}%
3061 \def\footnoteautorefname{l\'abjegyzet}%
3062 \def\itemautorefname{Elem}%
3063 \def\figureautorefname{'Abra}%
3064 \def\tableautorefname{T\'abl\'azat}%
3065 \def\partautorefname{R\'esz}%
3066 \def\appendixautorefname{F\'uggel\'ek}%
3067 \def\chapterautorefname{fejezet}%
3068 \def\sectionautorefname{szakasz}%
3069 \def\subsectionautorefname{alszakasz}%
3070 \def\subsubsectionautorefname{alalszakasz}%
3071 \def\paragraphautorefname{bekezd\'es}%
3072 \def\subparagraphautorefname{albekezd\'es}%
3073 \def\FancyVerbLineautorefname{sor}%
3074 \def\theoremautorefname{T\'etel}%
3075 \def\pageautorefname{oldal}%
3076 }
3077 \def\HyLang@portuges{%
3078 \def\equationautorefname{Equa\c c\~ao}%
3079 \def\footnoteautorefname{Nota de rodap\'e}%
3080 \def\itemautorefname{Item}%
3081 \def\figureautorefname{Figura}%
3082 \def\tableautorefname{Tabela}%
3083 \def\partautorefname{Parte}%
3084 \def\appendixautorefname{Ap\~endice}%
3085 \def\chapterautorefname{Cap\'itulo}%
3086 \def\sectionautorefname{Se\c c\~ao}%
3087 \def\subsectionautorefname{Subse\c c\~ao}%
3088 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3089 \def\paragraphautorefname{par\'agrafo}%
3090 \def\subparagraphautorefname{subpar\'agrafo}%
3091 \def\FancyVerbLineautorefname{linha}%
3092 \def\theoremautorefname{Teorema}%
3093 \def\pageautorefname{P\'agina}%
3094 }

```

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`.

```
3095 \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`?

```
3096 \def\equationautorefname{\cyr\cyrv\cyrry\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`.

```
3097 % \def\equationautorefname{%
3098 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3099 % }%
```

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

```
3100 \def\footnoteautorefname{%
3101   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3102 }%
```

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}`”

```
3103 % \def\footnoteautorefname{%
3104 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3105 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3106 % }%
```

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

```
3107 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3108 % \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.

```
3109 \def\itemautorefname{\cyr\cyrp.}%
3110 % \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.

```
3111 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3112 \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.

```
3113 \def\partautorefname{\cyr\cyrch.}%
3114 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3115 \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.


```

3116 \def\appendixautorefname{\cyr\cyrr\cyri\cyrI.}%
3117 % \def\appendixautorefname{%
3118 % \cyr\cyrr\cyri\cyrI\cyro\cyrrzh\cyre\cyrrn\cyri\cyre
3119 % }%

```

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.

```

3120 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrrz\cyrd.}%
3121 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrrz\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.

```

3122 \def\paragraphautorefname{\cyr\cyrr.}%
3123 \def\subparagraphautorefname{\cyr\cyrr.}%

```

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.

```

3124 % \def\paragraphautorefname{\cyr\cyrr\cyru\cyrrn\cyrk\cyrt}%
3125 % \def\subparagraphautorefname{\cyr\cyrr\cyru\cyrrn\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.

```

3126 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

3127 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3128 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

3129 % \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 ...

```

3130 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```

3131 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrrm\cyra}%
3132 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrrm\cyru}%

```

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

```

3133 \def\pageautorefname{\cyr\cyrs.}%
3134 }

```

```

3135 \def\HyLang@spanish{%
3136 \def\equationautorefname{Ecuaci'on}%
3137 \def\footnoteautorefname{Nota a pie de p'agina}%
3138 \def\itemautorefname{Elemento}%
3139 \def\figureautorefname{Figura}%
3140 \def\tableautorefname{Tabla}%

```

```

3141 \def\partautorefname{Parte}%
3142 \def\appendixautorefname{Ap\`endice}%
3143 \def\chapterautorefname{Cap\`itulo}%
3144 \def\sectionautorefname{Secci\`on}%
3145 \def\subsectionautorefname{Subsecci\`on}%
3146 \def\subsubsectionautorefname{Subsubsecci\`on}%
3147 \def\paragraphautorefname{P\`arrafo}%
3148 \def\subparagraphautorefname{Subp\`arrafo}%
3149 \def\FancyVerbLineautorefname{L\`inea}%
3150 \def\theoremautorefname{Teorema}%
3151 \def\pageautorefname{P\`agina}%
3152 }

3153 \def\HyLang@catalan{%
3154 \def\equationautorefname{Equaci\`o}%
3155 \def\footnoteautorefname{Nota al peu de p\`agina}%
3156 \def\itemautorefname{Element}%
3157 \def\figureautorefname{Figura}%
3158 \def\tableautorefname{Taula}%
3159 \def\partautorefname{Part}%
3160 \def\appendixautorefname{Ap\`endix}%
3161 \def\chapterautorefname{Cap\`itol}%
3162 \def\sectionautorefname{Secci\`o}%
3163 \def\subsectionautorefname{Subsecci\`o}%
3164 \def\subsubsectionautorefname{Subsubsecci\`o}%
3165 \def\paragraphautorefname{Par\`agraf}%
3166 \def\subparagraphautorefname{Subpar\`agraf}%
3167 \def\FancyVerbLineautorefname{L\`inia}%
3168 \def\theoremautorefname{Teorema}%
3169 \def\pageautorefname{P\`agina}%
3170 }

3171 \def\HyLang@vietnamese{%
3172 \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3173 \def\footnoteautorefname{Ch\`u th\`ich}%
3174 \def\itemautorefname{m\`d{u}c}%
3175 \def\figureautorefname{H\`inh}%
3176 \def\tableautorefname{B\`h{a}ng}%
3177 \def\partautorefname{Ph\`acircumflex{}n}%
3178 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3179 \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3180 \def\sectionautorefname{m\`d{u}c}%
3181 \def\subsectionautorefname{m\`d{u}c}%
3182 \def\subsubsectionautorefname{m\`d{u}c}%
3183 \def\paragraphautorefname{\dj{}o\`d{a}n}%
3184 \def\subparagraphautorefname{\dj{}o\`d{a}n}%
3185 \def\FancyVerbLineautorefname{d\`ong}%
3186 \def\theoremautorefname{\DJ{}d{i}nh l\`y}%
3187 \def\pageautorefname{Trang}%
3188 }

```

Greek, see github issue 52

```

3189 \def\HyLang@greek{%
3190 \def\equationautorefname{\textEpsilon\textxi\acctonos\textiota\textsigma\textomega\textsigma\texteta}%

```

```

3191 \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3192 \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3193 \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3194 \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3195 \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3196 \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3197 \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%
3198 \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3199 \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3200 \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\textrho\textalpha\texttau\texteta\textmu\textalpha}%
3201 \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3202 \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3203 \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acconos\texteta}%
3204 \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\textrho\texteta\textmu\textalpha}%
3205 \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\textalpha}%
3206 }

3207 \def\HyLang@dutch{%
3208 \def\equationautorefname{Vergelijking}%
3209 \def\footnoteautorefname{voetnoot}%
3210 \def\itemautorefname{punt}%
3211 \def\figureautorefname{Figuur}%
3212 \def\tableautorefname{Tabel}%
3213 \def\partautorefname{Deel}%
3214 \def\appendixautorefname{Bijlage}%
3215 \def\chapterautorefname{hoofdstuk}%
3216 \def\sectionautorefname{paragraaf}%
3217 \def\subsectionautorefname{deelparagraaf}%
3218 \def\subsubsectionautorefname{deel-deelparagraaf}%
3219 \def\paragraphautorefname{alinea}%
3220 \def\subparagraphautorefname{deelalinea}%
3221 \def\FancyVerbLineautorefname{regel}%
3222 \def\theoremautorefname{Stelling}%
3223 \def\pageautorefname{pagina}%
3224 }

3225 \def\HyLang@norsk{%
3226 \def\equationautorefname{Ligning}%
3227 \def\footnoteautorefname{fotnote}%
3228 \def\itemautorefname{element}%
3229 \def\figureautorefname{Figur}%

```

```

3230 \def\tableautorefname{Tabell}%
3231 \def\partautorefname{Del}%
3232 \def\appendixautorefname{Tillegg}%
3233 \def\chapterautorefname{kapittel}%
3234 \def\sectionautorefname{seksjon}%
3235 \def\subsectionautorefname{underseksjon}%
3236 \def\subsubsectionautorefname{under-underseksjon}%
3237 \def\paragraphautorefname{avsnitt}%
3238 \def\subparagraphautorefname{underavsnitt}%
3239 \def\FancyVerbLineautorefname{Linje}%
3240 \def\theoremautorefname{Teorem}%
3241 \def\pageautorefname{side}%
3242 }
3243 \def\HyLang@danish{%
3244 \def\equationautorefname{Ligning}%
3245 \def\footnoteautorefname{fodnote}%
3246 \def\itemautorefname{element}%
3247 \def\figureautorefname{Figur}%
3248 \def\tableautorefname{Tabel}%
3249 \def\partautorefname{Del}%
3250 \def\appendixautorefname{Bilag}%
3251 \def\chapterautorefname{kapitel}%
3252 \def\sectionautorefname{seksjon}%
3253 \def\subsectionautorefname{under-seksjon}%
3254 \def\subsubsectionautorefname{under-under-seksjon}%
3255 \def\paragraphautorefname{afsnit}%
3256 \def\subparagraphautorefname{underafsnit}%
3257 \def\FancyVerbLineautorefname{linje}%
3258 \def\theoremautorefname{Teorem}%
3259 \def\pageautorefname{side}%
3260 }
3261 \def\HyLang@swedish{%
3262 \def\equationautorefname{Ekvation}%
3263 \def\footnoteautorefname{fotnot}%
3264 \def\itemautorefname{punkt}%
3265 \def\figureautorefname{Figur}%
3266 \def\tableautorefname{Tabell}%
3267 \def\partautorefname{Del}%
3268 \def\appendixautorefname{Bilaga}%
3269 \def\chapterautorefname{kapitel}%
3270 \def\sectionautorefname{avsnitt}%
3271 \def\subsectionautorefname{underavsnitt}%
3272 \def\subsubsectionautorefname{under-underavsnitt}%
3273 \def\paragraphautorefname{paragraf}%
3274 \def\subparagraphautorefname{underparagraf}%
3275 \def\FancyVerbLineautorefname{linje}%
3276 \def\theoremautorefname{Teorem}%
3277 \def\pageautorefname{sida}%
3278 }

```

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

```

3279 \def\HyLang@addto#1#2{%
3280 #2%

```

```

3281 \@temptokena{#2}%
3282 \ifx#1\relax
3283   \let#1\@empty
3284 \fi
3285 \ifx#1\@undefined
3286   \edef#1{\the\@temptokena}%
3287 \else
3288   \toks@\expandafter{#1}%
3289   \edef#1{\the\toks@\the\@temptokena}%
3290 \fi
3291 \@temptokena{}\toks@\@temptokena
3292 }

3293 \def\HyLang@DeclareLang#1#2#3{%
3294   \ifpackagewith{babel}{#1}{%
3295     \expandafter\HyLang@addto
3296       \csname extras#1\expandafter\endcsname
3297       \csname HyLang@#2\endcsname
3298   \begingroup
3299     \edef\x{\endgroup
3300       #3%
3301     }%
3302   \x
3303   \@namedef{HyLang@#1@done}{}%
3304 }{}%
3305 \begingroup
3306   \edef\x##1##2{%
3307     \noexpand\ifx##2\relax
3308       \errmessage{No definitions for language #2' found!}%
3309     \noexpand\fi
3310   \endgroup
3311   \noexpand\define@key{Hyp}{#1}[]{%
3312     \noexpand\@ifundefined{HyLang@#1@done}{%
3313       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3314       #3%
3315       \noexpand\@namedef{HyLang@#1@done}{}%
3316     }{}%
3317   }%
3318 }%
3319 \expandafter\x\csname extras#1\expandafter\endcsname
3320   \csname HyLang@#2\endcsname
3321 }

3322 \HyLang@DeclareLang{english}{english}{}
3323 \HyLang@DeclareLang{UKenglish}{english}{}
3324 \HyLang@DeclareLang{british}{english}{}
3325 \HyLang@DeclareLang{USenglish}{english}{}
3326 \HyLang@DeclareLang{american}{english}{}
3327 \HyLang@DeclareLang{german}{german}{}
3328 \HyLang@DeclareLang{austrian}{german}{}
3329 \HyLang@DeclareLang{ngerman}{german}{}
3330 \HyLang@DeclareLang{naustrian}{german}{}
3331 \HyLang@DeclareLang{nswissgerman}{german}{}
3332 \HyLang@DeclareLang{swissgerman}{german}{}
3333 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3334 \HyLang@DeclareLang{brazil}{portuges}{}

```

```

3335 \HyLang@DeclareLang{brazilian}{portuges}{}
3336 \HyLang@DeclareLang{portuguese}{portuges}{}
3337 \HyLang@DeclareLang{spanish}{spanish}{}
3338 \HyLang@DeclareLang{catalan}{catalan}{}
3339 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3340 \HyLang@DeclareLang{french}{french}{}
3341 \HyLang@DeclareLang{frenchb}{french}{}
3342 \HyLang@DeclareLang{français}{french}{}
3343 \HyLang@DeclareLang{acadian}{french}{}
3344 \HyLang@DeclareLang{canadien}{french}{}
3345 \HyLang@DeclareLang{italian}{italian}{}
3346 \HyLang@DeclareLang{magyar}{magyar}{}
3347 \HyLang@DeclareLang{hungarian}{magyar}{}
3348 \HyLang@DeclareLang{greek}{greek}{}
3349 \HyLang@DeclareLang{dutch}{dutch}{}
3350 \HyLang@DeclareLang{norsk}{norsk}{}
3351 \HyLang@DeclareLang{norwegian}{norsk}{}
3352 \HyLang@DeclareLang{danish}{danish}{}
3353 \HyLang@DeclareLang{swedish}{swedish}{}

```

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

```

3354 \DeclareVoidOption{vietnamese}{%
3355   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3356   \Hy@AtEndOfPackage{%
3357     \ifundefined{T@PU}{}{}%
3358     \input{puvnenc.def}%
3359   }%
3360 }%
3361 }
3362 \DeclareVoidOption{vietnam}{%
3363   \HyLang@addto\extravietnam\HyLang@vietnamese
3364   \Hy@AtEndOfPackage{%
3365     \ifundefined{T@PU}{}{}%
3366     \input{puvnenc.def}%
3367   }%
3368 }%
3369 }

```

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

```

3370 \DeclareVoidOption{arabic}{%
3371   \Hy@AtEndOfPackage{%
3372     \ifundefined{T@PU}{}{}%
3373     \input{puarenc.def}%
3374   }%
3375 }%
3376 }

```

13 Options to change appearance of links

Colouring links at the L^AT_EX level is useful for debugging, perhaps.

```

3377 \define@key{Hyp}{colorlinks}[true]{%
3378   \Hy@boolkey{colorlinks}{#1}%
3379 }

```

```

3380 \DeclareVoidOption{hidelinks}{%
3381   \Hy@colorlinksfalse
3382   \Hy@ocgcolorlinksfalse
3383   \Hy@frenchlinksfalse
3384   \def\Hy@colorlink##1{\begingroup}%
3385   \def\Hy@endcolorlink{\endgroup}%
3386   \def\@pdfborder{0 0 0}%
3387   \let\@pdfborderstyle\ltx@empty
3388 }
3389 \define@key{Hyp}{ocgcolorlinks}[true]{%
3390   \Hy@boolkey{ocgcolorlinks}{#1}%
3391 }
3392 \Hy@AtBeginDocument{%
3393   \begingroup
3394   \@ifundefined{OBJ@OCG@view}{%
3395     \ifHy@ocgcolorlinks
3396     \Hy@Warning{%
3397       Driver does not support `ocgcolorlinks',\MessageBreak
3398       using `colorlinks' instead%
3399     }%
3400     \fi
3401   }{}%
3402   \endgroup
3403 }
3404 \define@key{Hyp}{frenchlinks}[true]{%
3405   \Hy@boolkey{frenchlinks}{#1}%
3406 }

```

14 Bookmarking

```

3407 \begingroup\expandafter\expandafter\expandafter\endgroup
3408 \expandafter\ifx\csname chapter\endcsname\relax
3409   \def\toclevel@part{0}%
3410 \else
3411   \def\toclevel@part{-1}%
3412 \fi
3413 \def\toclevel@chapter{0}
3414 \def\toclevel@section{1}
3415 \def\toclevel@subsection{2}
3416 \def\toclevel@subsubsection{3}
3417 \def\toclevel@paragraph{4}
3418 \def\toclevel@subparagraph{5}
3419 \def\toclevel@figure{0}
3420 \def\toclevel@table{0}
3421 \define@key{Hyp}{bookmarks}[true]{%
3422   \Hy@boolkey{bookmarks}{#1}%
3423 }
3424 \define@key{Hyp}{bookmarksopen}[true]{%
3425   \Hy@boolkey{bookmarksopen}{#1}%
3426 }

```

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.

```

3427 \let\Hy@bookmarksdepth\c@tocdepth
3428 \define@key{Hyp}{bookmarksdepth}[]{}%
3429 \begingroup
3430   \edef\x{#1}%
3431   \ifx\x\empty
3432     \global\let\Hy@bookmarksdepth\c@tocdepth
3433   \else
3434     \ifundefined{toclevel@\x}{%
3435       \@onelevel@sanitize\x
3436       \edef\y{\expandafter\@car\x\@nil}%
3437       \ifcase 0\expandafter\ifx\y-1\fi
3438         \expandafter\ifnum\expandafter`\y>47 %
3439           \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3440       \Hy@Warning{Unknown document division name (\x)}%
3441     \else
3442       \setbox\z@=\hbox{%
3443         \count@=\x
3444         \xdef\Hy@bookmarksdepth{the\count@}%
3445       }%
3446     \fi
3447   }{}%
3448   \setbox\z@=\hbox{%
3449     \count@=\csname toclevel@\x\endcsname
3450     \xdef\Hy@bookmarksdepth{the\count@}%
3451   }%
3452 }%
3453 \fi
3454 \endgroup
3455 }

```

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

```

3456 \define@key{Hyp}{bookmarksopenlevel}{}%
3457 \def\@bookmarksopenlevel{#1}%
3458 }
3459 \def\@bookmarksopenlevel{\maxdimen}
3460 % `bookmarkstype' to specify which `toc' file to mimic
3461 \define@key{Hyp}{bookmarkstype}{}%
3462 \def\Hy@bookmarkstype{#1}%
3463 }
3464 \def\Hy@bookmarkstype{toc}

```

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

```

3465 \define@key{Hyp}{bookmarksnumbered}[true]{}%
3466 \Hy@boolkey{bookmarksnumbered}{#1}%
3467 }

```


Option CJKbookmarks enables the patch for CJK bookmarks.

```

3468 \define@key{Hyp}{CJKbookmarks}[true]{%
3469   \Hy@boolkey{CJKbookmarks}{#1}%
3470 }

3471 \def\Hy@temp#1{%
3472   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3473 }
3474 \def\Hy@@temp#1#2#3{%
3475   \define@key{Hyp}{#2color}{%
3476     \HyColor@HyperrefColor{##1}#1%
3477   }%
3478   \def#1{#3}%
3479 }
3480 \Hy@temp{link}{red}
3481 \Hy@temp{anchor}{black}
3482 \Hy@temp{cite}{green}
3483 \Hy@temp{file}{cyan}
3484 \Hy@temp{url}{magenta}
3485 \Hy@temp{menu}{red}
3486 \Hy@temp{run}{\@filecolor}
3487 \define@key{Hyp}{pagecolor}{%
3488   \Hy@WarningPageColor
3489 }
3490 \def\Hy@WarningPageColor{%
3491   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3492   \global\let\Hy@WarningPageColor\relax
3493 }
3494 \define@key{Hyp}{allcolors}{%
3495   \HyColor@HyperrefColor{#1}\@linkcolor
3496   \HyColor@HyperrefColor{#1}\@anchorcolor
3497   \HyColor@HyperrefColor{#1}\@citecolor
3498   \HyColor@HyperrefColor{#1}\@filecolor
3499   \HyColor@HyperrefColor{#1}\@urlcolor
3500   \HyColor@HyperrefColor{#1}\@menucolor
3501   \HyColor@HyperrefColor{#1}\@runcolor
3502 }

3503 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3504 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3505 \let\@baseurl\empty
3506 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3507 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3508 \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.

```

3509 \let\@pdfpagetransition\relax
3510 \define@key{Hyp}{pdfpagetransition}{%
3511   \def\@pdfpagetransition{#1}%
3512 }

```

`\@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.

```

3513 \let\@pdfpageduration\relax
3514 \define@key{Hyp}{pdfpageduration}{%
3515   \def\@pdfpageduration{#1}%
3516   \Hy@Match\@pdfpageduration}{%
3517     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3518   }{}{%
3519     \Hy@Warning{%
3520       Invalid value '\@pdfpageduration'\MessageBreak
3521       of option `pdfpageduration'\MessageBreak
3522       is replaced by an empty value%
3523     }%
3524     \let\@pdfpageduration\ltx@empty
3525   }%
3526 }
```

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).

```

3527 \def\Hy@ColorList{cite,file,link,menu,run,url}
3528 \@for\Hy@temp:=\Hy@ColorList\do{%
3529   \edef\Hy@temp{%
3530     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3531       \noexpand\HyColor@HyperrefBorderColor
3532       {##1}%
3533       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3534       {hyperref}%
3535       {\Hy@temp bordercolor}%
3536     }%
3537   }%
3538   \Hy@temp
3539 }
3540 \define@key{Hyp}{pagebordercolor}{%
3541   \Hy@WarningPageBorderColor
3542 }
3543 \def\Hy@WarningPageBorderColor{%
3544   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3545   \global\let\Hy@WarningPageBorderColor\relax
3546 }
3547 \define@key{Hyp}{allbordercolors}{%
3548   \def\Hy@temp##1##2{%
3549     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3550   }%
3551   \Hy@temp\@citebordercolor{cite}%
3552   \Hy@temp\@filebordercolor{file}%
3553   \Hy@temp\@linkbordercolor{link}%

```

```

3554 \Hy@temp\@menubordercolor{menu}%
3555 \Hy@temp\@runbordercolor{run}%
3556 \Hy@temp\@urlbordercolor{url}%
3557 }

3558 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3559 \Hy@DefNameKey{pdfhighlight}{%
3560   \do{/I}{Invert}%
3561   \do{/N}{None}%
3562   \do{/O}{Outline}%
3563   \do{/P}{Push}%
3564 }
3565 \def\Hy@setpdfhighlight{%
3566   \ifx\@pdfhighlight\@empty
3567   \else
3568     /H\@pdfhighlight
3569   \fi
3570 }
3571 \define@key{Hyp}{pdfborder}{%
3572   \let\Hy@temp\@pdfborder
3573   \def\@pdfborder{#1}%
3574   \Hy@Match\@pdfborder{}{%
3575     ^\HyPat@NonNegativeReal/ %
3576     \HyPat@NonNegativeReal/ %
3577     \HyPat@NonNegativeReal/%
3578     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3579   }{}{%
3580     \Hy@Warning{%
3581       Invalid value ` \@pdfborder'\MessageBreak
3582       for option `pdfborder'.\MessageBreak
3583       Option setting is ignored%
3584     }%
3585     \let\@pdfborder\Hy@temp
3586   }%
3587 }
3588 \define@key{Hyp}{pdfborderstyle}{%
3589   \let\Hy@temp\@pdfborderstyle
3590   \def\@pdfborderstyle{#1}%
3591   \Hy@Match\@pdfborderstyle{}{%
3592     ^%
3593     ( */Type */Border%
3594       | */W +\HyPat@NonNegativeReal/%
3595       | */S */[SDBIU]%
3596       | */D *[ ( \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)? )? ]%
3597     )* *$%
3598   }{}{%
3599     \Hy@Warning{%
3600       Invalid value ` \@pdfborderstyle'\MessageBreak
3601       for option `pdfborderstyle'.\MessageBreak
3602       Option setting is ignored%
3603     }%
3604     \let\@pdfborderstyle\Hy@temp
3605   }%
3606 }
3607 \def\Hy@setpdfborder{%

```

```

3608 \ifx\@pdfborder\@empty
3609 \else
3610 /Border[\@pdfborder]%
3611 \fi
3612 \ifx\@pdfborderstyle\@empty
3613 \else
3614 /BS<<\@pdfborderstyle>>%
3615 \fi
3616 }
3617 \Hy@DefNameKey{pdfpagemode}{%
3618 \do{UseNone}{}%
3619 \do{UseOutlines}{}%
3620 \do{UseThumbs}{}%
3621 \do{FullScreen}{}%
3622 \do{UseOC}{PDF 1.5}%
3623 \do{UseAttachments}{PDF 1.6}%
3624 }
3625 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3626 \do{UseNone}{}%
3627 \do{UseOutlines}{}%
3628 \do{UseThumbs}{}%
3629 \do{FullScreen}{}%
3630 \do{UseOC}{PDF 1.5}%
3631 \do{UseAttachments}{PDF 1.6}%
3632 }
3633 \Hy@DefNameKey{pdfdirection}{%
3634 \do{L2R}{Left to right}%
3635 \do{R2L}{Right to left}%
3636 }
3637 \Hy@DefNameKey{pdfviewarea}{%
3638 \do{MediaBox}{}%
3639 \do{CropBox}{}%
3640 \do{BleedBox}{}%
3641 \do{TrimBox}{}%
3642 \do{ArtBox}{}%
3643 }
3644 \Hy@DefNameKey{pdfviewclip}{%
3645 \do{MediaBox}{}%
3646 \do{CropBox}{}%
3647 \do{BleedBox}{}%
3648 \do{TrimBox}{}%
3649 \do{ArtBox}{}%
3650 }
3651 \Hy@DefNameKey{pdfprintarea}{%
3652 \do{MediaBox}{}%
3653 \do{CropBox}{}%
3654 \do{BleedBox}{}%
3655 \do{TrimBox}{}%
3656 \do{ArtBox}{}%
3657 }
3658 \Hy@DefNameKey{pdfprintclip}{%
3659 \do{MediaBox}{}%
3660 \do{CropBox}{}%
3661 \do{BleedBox}{}%

```

```

3662 \do{TrimBox}{}%
3663 \do{ArtBox}{}%
3664 }
3665 \Hy@DefNameKey{pdfprintscaling}{%
3666 \do{AppDefault}{}%
3667 \do{None}{}%
3668 }
3669 \Hy@DefNameKey{pdfduplex}{%
3670 \do{Simplex}{}%
3671 \do{DuplexFlipShortEdge}{}%
3672 \do{DuplexFlipLongEdge}{}%
3673 }
3674 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3675 \do{true}{}%
3676 \do{false}{}%
3677 }
3678 \define@key{Hyp}{pdfprintpagerange}{%
3679 \def\@pdfprintpagerange{#1}%
3680 }
3681 \Hy@DefNameKey{pdfnumcopies}{%
3682 \do{2}{two copies}%
3683 \do{3}{three copies}%
3684 \do{4}{four copies}%
3685 \do{5}{five copies}%
3686 }
3687 \define@key{Hyp}{pdfusetitle}[true]{%
3688 \Hy@boolkey{pdfusetitle}{#1}%
3689 }
3690 \def\HyXeTeX@CheckUnicode{%
3691 \ifxetex
3692 \ifHy@unicode
3693 \else
3694 \Hy@WarningNoLine{%
3695 XeTeX driver only supports unicode.\MessageBreak
3696 Enabling option `unicode'%
3697 }%
3698 \kvsetkeys{Hyp}{unicode}%
3699 \fi
3700 \else
3701 \let\HyXeTeX@CheckUnicode\relax
3702 \fi
3703 }
3704 \def\HyPsd@PrerenderUnicode#1{%
3705 \begingroup
3706 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3707 \else
3708 \sbox0{%
3709 \let\GenericInfo\@gobbletwo
3710 \let\GenericWarning\@gobbletwo
3711 \let\GenericError\@gobblefour
3712 \PrerenderUnicode{#1}%
3713 }%
3714 \fi
3715 \endgroup

```

```

3716 }
3717 \define@key{Hyp}{pdftitle}{%
3718   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3719   \HyXeTeX@CheckUnicode
3720   \HyPsd@PrerenderUnicode{#1}%
3721   \pdfstringdef\@pdftitle{#1}%
3722 }
3723 \define@key{Hyp}{pdfauthor}{%
3724   \AddToDocumentProperties[hyperref]{pdfauthor}{#1}%
3725   \HyXeTeX@CheckUnicode
3726   \HyPsd@PrerenderUnicode{#1}%
3727   \pdfstringdef\@pdfauthor{#1}%
3728 }
3729 \define@key{Hyp}{pdfproducer}{%
3730   \AddToDocumentProperties[hyperref]{pdfproducer}{#1}%
3731   \HyXeTeX@CheckUnicode
3732   \HyPsd@PrerenderUnicode{#1}%
3733   \pdfstringdef\@pdfproducer{#1}%
3734 }
3735 \define@key{Hyp}{pdfcreator}{%
3736   \AddToDocumentProperties[hyperref]{pdfcreator}{#1}%
3737   \HyXeTeX@CheckUnicode
3738   \HyPsd@PrerenderUnicode{#1}%
3739   \pdfstringdef\@pdfcreator{#1}%
3740 }
3741 \define@key{Hyp}{addtopdfcreator}{%
3742   \HyXeTeX@CheckUnicode
3743   \HyPsd@PrerenderUnicode{#1}%
3744   \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3745 }
3746 \define@key{Hyp}{pdfcreationdate}{%
3747   \begingroup
3748     \Hy@unicodfalse
3749     \pdfstringdef\@pdfcreationdate{#1}%
3750   \endgroup
3751 }
3752 \define@key{Hyp}{pdfmoddate}{%
3753   \begingroup
3754     \Hy@unicodfalse
3755     \pdfstringdef\@pdfmoddate{#1}%
3756   \endgroup
3757 }
3758 \define@key{Hyp}{pdfsubject}{%
3759   \AddToDocumentProperties[hyperref]{pdfsubject}{#1}%
3760   \HyXeTeX@CheckUnicode
3761   \HyPsd@PrerenderUnicode{#1}%
3762   \pdfstringdef\@pdfsubject{#1}%
3763 }
3764 \define@key{Hyp}{pdfkeywords}{%
3765   \AddToDocumentProperties[hyperref]{pdfkeywords}{#1}%
3766   \HyXeTeX@CheckUnicode
3767   \HyPsd@PrerenderUnicode{#1}%
3768   \pdfstringdef\@pdfkeywords{#1}%
3769 }

```

```

3770 \define@key{Hyp}{pdftrapped}{%
3771   \lowercase{\edef\Hy@temp{#1}}%
3772   \ifx\Hy@temp\HyInfo@trapped@true
3773     \def\@pdftrapped{True}%
3774   \else
3775     \ifx\Hy@temp\HyInfo@trapped@false
3776       \def\@pdftrapped{False}%
3777     \else
3778       \ifx\Hy@temp\HyInfo@trapped@unknown
3779         \def\@pdftrapped{Unknown}%
3780       \else
3781         \ifx\Hy@temp\@empty
3782           \else
3783             \Hy@Warning{%
3784               Unsupported value `#1'\MessageBreak
3785               for option `pdftrapped'%
3786             }%
3787           \fi
3788         \def\@pdftrapped{}%
3789       \fi
3790     \fi
3791   \fi
3792 }
3793 \def\HyInfo@trapped@true{true}
3794 \def\HyInfo@trapped@false{false}
3795 \def\HyInfo@trapped@unknown{unknown}
3796 \def\HyInfo@TrappedUnsupported{%
3797   \ifx\@pdftrapped\@empty
3798   \else
3799     \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3800   \gdef\HyInfo@TrappedUnsupported{}%
3801   \fi
3802 }
3803 \define@key{Hyp}{pdfinfo}{%
3804   \kvsetkeys{pdfinfo}{#1}%
3805 }
3806 \def\Hy@temp#1{%
3807   \lowercase{\Hy@temp@A{#1}}{#1}%
3808 }
3809 \def\Hy@temp@A#1#2{%
3810   \define@key{pdfinfo}{#2}{%
3811     \hypersetup{pdf#1={##1}}%
3812   }%
3813 }
3814 \Hy@temp{Title}
3815 \Hy@temp{Author}
3816 \Hy@temp{Keywords}
3817 \Hy@temp{Subject}
3818 \Hy@temp{Creator}
3819 \Hy@temp{Producer}
3820 \Hy@temp{CreationDate}
3821 \Hy@temp{ModDate}
3822 \Hy@temp{Trapped}
3823 \newif\ifHyInfo@AddonUnsupported

```

```

3824 \kv@set@family@handler{pdfinfo}{%
3825 \HyInfo@AddonHandler{#1}{#2}%
3826 }
3827 \let\HyInfo@do\relax
3828 \def\HyInfo@AddonHandler#1#2{%
3829 \ifx\kv@value\relax
3830 \Hy@Warning{%
3831 Option `pdfinfo': ignoring key `\'kv@key' without value%
3832 }%
3833 \else
3834 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3835 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3836 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3837 \ifHyInfo@AddonUnsupported
3838 \Hy@Warning{%
3839 This driver does not support additional\MessageBreak
3840 information entries, therefore\MessageBreak
3841 `\'kv@key' is ignored%
3842 }%
3843 \else
3844 \def\HyInfo@tmp###1{%
3845 \kv@define@key{pdfinfo}{###1}{%
3846 \HyXeTeX@CheckUnicode
3847 \HyPsd@PrerenderUnicode{####1}%
3848 \pdfstringdef\HyInfo@Value{####1}%
3849 \global\expandafter
3850 \let\csname HyInfo@Value@##1\endcsname
3851 \HyInfo@Value
3852 }%
3853 }%
3854 \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3855 \global\expandafter
3856 \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3857 \csname KV@pdfinfo@\HyInfo@Key\endcsname
3858 \xdef\HyInfo@AddonList{%
3859 \HyInfo@AddonList
3860 \HyInfo@do{\HyInfo@Key}%
3861 }%
3862 \expandafter\kv@parse@normalized\expandafter{%
3863 \HyInfo@Key={#2}%
3864 }{%
3865 \kv@processor@default{pdfinfo}%
3866 }%
3867 \fi
3868 \else
3869 \expandafter\kv@parse@normalized\expandafter{%
3870 \HyInfo@Key={#2}%
3871 }{%
3872 \kv@processor@default{pdfinfo}%
3873 }%
3874 \fi
3875 \fi
3876 }
3877 \def\HyInfo@GenerateAddons{%

```



```

3878 \ifHyInfo@AddonUnsupported
3879 \def\HyInfo@Addons{}%
3880 \else
3881 \begingroup
3882 \toks@{}%
3883 \def\HyInfo@do##1{%
3884 \EdefEscapeName\HyInfo@Key{##1}%
3885 \edef\x{%
3886 \toks@{%
3887 \the\toks@
3888 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3889 }%
3890 }%
3891 \x
3892 }%
3893 \HyInfo@AddonList
3894 \edef\x{\endgroup
3895 \def\noexpand\HyInfo@Addons{\the\toks@}%
3896 }%
3897 \x
3898 \fi
3899 }
3900 \global\let\HyInfo@AddonList\ltx@empty

3901 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3902 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
3903 \let\setpdflinkmargin\@gobble
3904 \def\calculate@pdfview#1 #2\{\%
3905 \def\@pdfview{#1}%
3906 \ifx\#2\%
3907 \def\@pdfviewparams{ -32768}%
3908 \else
3909 \def\@pdfviewparams{ #2}%
3910 \fi
3911 }
3912 \def\Hy@number#1{%
3913 \the\numexpr#1\relax
3914 }%
3915 \define@key{Hyp}{pdfstartpage}{\%
3916 \ifx\#1\%
3917 \let\@pdfstartpage\ltx@empty
3918 \else
3919 \edef\@pdfstartpage{\Hy@number{#1}}%
3920 \fi
3921 }%
3922 \define@key{Hyp}{pdfstartview}{\%
3923 \ifx\#1\%
3924 \let\@pdfstartview\ltx@empty
3925 \else
3926 \def\@pdfstartview{/#1}%
3927 \fi
3928 }
3929 \def\HyPat@NonNegativeReal/{\%
3930 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3931 }

```

```

3932 \define@key{Hyp}{pdfremotestartview}{%
3933   \ifx\#1\%
3934     \def\@pdfremotestartview{/Fit}%
3935   \else
3936     \edef\@pdfremotestartview{#1}%
3937     \Hy@Match\@pdfremotestartview{}{%
3938       ^{XYZ(
3939         ()| %
3940         (null|-?\HyPat@NonNegativeReal/) %
3941         (null|-?\HyPat@NonNegativeReal/) %
3942         (null|\HyPat@NonNegativeReal/)%
3943       )| % end of "XYZ"
3944       Fit(
3945         ()| %
3946         B| %
3947         (H|V|BH|BV)(
3948           ()| %
3949           (null|\HyPat@NonNegativeReal/)%
3950         )| %
3951         R %
3952         \HyPat@NonNegativeReal/ %
3953         \HyPat@NonNegativeReal/ %
3954         \HyPat@NonNegativeReal/ %
3955         \HyPat@NonNegativeReal/%
3956       ) % end of "Fit"
3957     )$%
3958   }{}{%
3959     \Hy@Warning{%
3960       Invalid value ` \@pdfremotestartview'\MessageBreak
3961       of `pdfremotestartview'\MessageBreak
3962       is replaced by `Fit'%
3963     }%
3964     \let\@pdfremotestartview\@empty
3965   }%
3966   \ifx\@pdfremotestartview\@empty
3967     \def\@pdfremotestartview{/Fit}%
3968   \else
3969     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3970   \fi
3971 \fi
3972 }
3973 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3974 \define@key{Hyp}{pdftoolbar}[true]{%
3975   \Hy@boolkey{pdftoolbar}{#1}%
3976 }
3977 \define@key{Hyp}{pdfmenubar}[true]{%
3978   \Hy@boolkey{pdfmenubar}{#1}%
3979 }
3980 \define@key{Hyp}{pdfwindowui}[true]{%
3981   \Hy@boolkey{pdfwindowui}{#1}%
3982 }
3983 \define@key{Hyp}{pdfitwindow}[true]{%
3984   \Hy@boolkey{pdfitwindow}{#1}%
3985 }

```

```

3986 \define@key{Hyp}{pdfcenterwindow}[true]{%
3987   \Hy@boolkey{pdfcenterwindow}{#1}%
3988 }
3989 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3990   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3991 }
3992 \define@key{Hyp}{pdfa}[true]{%
3993   \Hy@boolkey{pdfa}{#1}%
3994 }
3995 \define@key{Hyp}{pdfnewwindow}[true]{%
3996   \def\Hy@temp{#1}%
3997   \ifx\Hy@temp\@empty
3998     \Hy@pdfnewwindowsetfalse
3999   \else
4000     \Hy@pdfnewwindowsettrue
4001     \Hy@boolkey{pdfnewwindow}{#1}%
4002   \fi
4003 }
4004 \def\Hy@SetNewWindow{%
4005   \ifHy@pdfnewwindowset
4006     /NewWindow %
4007   \ifHy@pdfnewwindow true\else false\fi
4008 }
4009 }
4010 \Hy@DefNameKey{pdfpagelayout}{%
4011   \do{SinglePage}{}%
4012   \do{OneColumn}{}%
4013   \do{TwoColumnLeft}{}%
4014   \do{TwoColumnRight}{}%
4015   \do{TwoPageLeft}{PDF 1.5}%
4016   \do{TwoPageRight}{PDF 1.5}%
4017 }
4018 \define@key{Hyp}{pdflang}{%
4019   \edef\@pdflang{#1}%
4020   \def\Hy@temp{\relax}%
4021   \ifx\@pdflang\Hy@temp
4022     \let\@pdflang\relax
4023   \fi
4024   \ifx\@pdflang\relax
4025   \else
4026     \ifx\@pdflang\ltx@empty
4027     \else

```

Test according to ABNF of RFC 3066.

```

4028   \Hy@Match\@pdflang{icase}{%
4029     ~%
4030     [a-z]{1,8}%
4031     (-[a-z0-9]{1,8})*%
4032     $%
4033   }{%

```

Test according to ABNF of RFC 5646.

```

4034   \Hy@Match\@pdflang{icase}{%
4035     ~%
4036     (%

```

```

4037 % langtag
4038 (% language
4039 [a-z]{2,3}%
4040 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4041 |[a-z]{4}% reserved for future use
4042 |[a-z]{5,8}% registered language subtag
4043 )%
4044 (-[a-z]{4})?% script
4045 (-([a-z]{2}|[0-9]{3}))?% region
4046 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4047 (-[0-9a-wyz](-[a-z0-9]{2,8})+)?% extension
4048 (-x(-[a-z0-9]{1,8})+)?% privateuse
4049 % privateuse
4050 |x(-[a-z0-9]{1,8})+)%
4051 % grandfathered/irregular
4052 |en-GB-oed%
4053 |i-(ami|bnn|default|enochian|hak|klinton|lux|
4054 mingo|navajo|pwn|tao|tay|tsu)%
4055 |sgn-(BE-FR|BE-NL|CH-DE)%
4056 % grandfathered/regular
4057 |art-lojban%
4058 |cel-gaulish%
4059 |no-(bok|nyn)%
4060 |zh-(guoyu|hakka|min|min-nan|xiang)%
4061 )%
4062 $%
4063 }{%

```

Test for unique extensions.

```

4064 \Hy@Match{-\@pdfang}{icase}{-[a-wyz0-9]-}{%
4065 \Hy@Match\@pdfang{icase}{~x-}{}%
4066 % remove privateuse
4067 \edef\Hy@temp{-\@pdfang}%
4068 \Hy@Match\Hy@temp{icase}{}%
4069 ~%
4070 (%
4071 (-[a-wyz0-9]|-[a-z0-9]{2,8})?%
4072 )%
4073 -x-%
4074 }{%
4075 \edef\Hy@temp{%
4076 \expandafter\strip@prefix\pdfastmatch1%
4077 }%
4078 }{%
4079 \Hy@Match\Hy@temp{icase}{}%
4080 (-[a-wyz0-9]-).*\ltx@backslashchar1%
4081 }{%
4082 \Hy@Warning{%
4083 Invalid language identifier `#1'\MessageBreak
4084 for option `pdfang', because it violates\MessageBreak
4085 well-formedness defined in RFC 4646\MessageBreak
4086 by duplicate singleton subtags%
4087 }%
4088 \let\@pdfang\relax
4089 }{%

```

```

4090     }%
4091   }{}%

```

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

```

4092   \ifx\@pdflang\relax
4093   \else
4094     \Hy@Match\@pdflang{icase}{%
4095       ~%
4096       [a-zA-Z]{2}-%
4097       (%
4098         aa|AA|%
4099         [qQ][m-zA-Z]|%
4100         [xX][a-zA-Z]|%
4101         zz|ZZ%
4102       )%
4103       (-|$)%
4104     }{%
4105       \Hy@Warning{%
4106         Invalid language identifier `#1'\MessageBreak
4107         for option `pdflang' because of invalid country code%
4108       \MessageBreak
4109         in second subtag (RFC 3066)%
4110     }%
4111     \let\@pdflang\relax
4112   }{}%
4113   \fi
4114 }{%
4115   \Hy@Warning{%
4116     Invalid language identifier `#1'\MessageBreak
4117     for option `pdflang', because it violates\MessageBreak
4118     well-formedness defined in RFC 5646%
4119   }%
4120   \let\@pdflang\relax
4121 }%
4122 }{%
4123   \Hy@Warning{%
4124     Invalid language identifier `#1'\MessageBreak
4125     for option `pdflang' (RFC 3066)%
4126   }%
4127   \let\@pdflang\relax
4128 }%
4129 \fi
4130 \fi
4131 }
4132 \define@key{Hyp}{pdfpagelabels}[true]{%
4133   \Hy@boolkey{pdfpagelabels}{#1}%
4134 }
4135 \define@key{Hyp}{pdfescapeform}[true]{%
4136   \Hy@boolkey{pdfescapeform}{#1}%
4137 }

```

Default values:

```

4138 \def\@linkbordercolor{1 0 0}
4139 \def\@urlbordercolor{0 1 1}
4140 \def\@menubordercolor{1 0 0}

```

```

4141 \def\@filebordercolor{0 .5 .5}
4142 \def\@runbordercolor{0 .7 .7}
4143 \def\@citebordercolor{0 1 0}
4144 \def\@pdfhighlight{/I}
4145 \let\@pdftitle\ltx@empty
4146 \let\@pdfauthor\ltx@empty
4147 \let\@pdfproducer\relax
4148 \def\@pdfcreator{LaTeX with hyperref}
4149 \let\@pdfcreationdate\ltx@empty
4150 \let\@pdfmoddate\ltx@empty
4151 \let\@pdfsubject\ltx@empty
4152 \let\@pdfkeywords\ltx@empty
4153 \let\@pdftrapped\ltx@empty
4154 \let\@pdfpagescrop\ltx@empty
4155 \def\@pdfstartview{/Fit}
4156 \def\@pdfremotestartview{/Fit}
4157 \def\@pdfstartpage{1}
4158 \let\@pdfprintpagerange\ltx@empty
4159 \let\@pdflang\relax
4160 \let\PDF@SetupDoc\@empty
4161 \let\PDF@FinishDoc\@empty
4162 \let\phantomsection\@empty
4163 \let\special@paper\@empty
4164 \def\HyperDestNameFilter#1{#1}
4165 \Hy@AtBeginDocument{%
4166   \begingroup
4167     \edef\x{\ifdim\stockheight>\z@ \stockheight\else\paperheight\fi}%
4168     \dimen@=\x\relax
4169     \ifdim\dimen@>\z@
4170       \else
4171         \dimen@=11in\relax
4172         \Hy@WarningNoLine{%
4173           Height of page (\expandafter\string\x) %
4174           is invalid (\the\x),\MessageBreak
4175           using 11in%
4176         }%
4177       \fi
4178       \dimen@=0.99626401\dimen@
4179       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4180   \endgroup
4181 }
4182 \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.

```

4183 \let\hyper@normalise\ExecuteOptions
4184 \let\ExecuteOptions\hypersetup
4185 \Hy@RestoreCatcodes
4186 \InputIfFileExists{hyperref.cfg}{\|}{\|}
4187 \Hy@SetCatcodes
4188 \let\ExecuteOptions\hyper@normalise
4189 \ifx\Hy@MaybeStopNow\relax
4190 \else

```

```

4191 \Hy@stoppeearlytrue
4192 \expandafter\Hy@MaybeStopNow
4193 \fi
4194 \Hy@stoppeearlyfalse

```

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.

```

4195 \SetupKeyvalOptions{family=Hyp}
4196 \DeclareLocalOptions{%
4197   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4198 }

```

Add option `tex4ht` if package `tex4ht` is loaded.

```

4199 \@ifpackagewith{hyperref}{tex4ht}{%
4200 }{%
4201   \@ifpackageloaded{tex4ht}{%
4202     \PassOptionsToPackage{tex4ht}{hyperref}%
4203   }{%
4204     \ltx@ifundefined{HCode}{%
4205     }{%
4206       \begingroup
4207       \def\Hy@pkg{tex4ht}%
4208       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4209         \def\Hy@param{#2#3}%
4210         \ifx\Hy@param\ltx@empty
4211           \expandafter\ltx@gobble
4212         \else
4213           \def\Hy@param{#3}%
4214           \ifx\Hy@param\Hy@pkg
4215             \PassOptionsToPackage{#2}{tex4ht}%
4216             \expandafter\expandafter\expandafter\@gobble
4217           \else
4218             \expandafter\expandafter\expandafter\ltx@firstofone
4219           \fi
4220         \fi
4221         {\Hy@temp@A#4\Hy@NIL}%
4222       }%
4223       \expandafter
4224       \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4225     \endgroup
4226     \PassOptionsToPackage{tex4ht}{hyperref}%
4227   }%
4228 }%
4229 }

```

```

4230 \let\ReadBookmarks\relax
4231 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package `xspace` support

```

4232 \def\Hy@xspace@end{}
4233 \ltx@ifundefined{xspaceaddexceptions}{%
4234   \Hy@AtBeginDocument{%

```

```

4235 \ltx@ifundefined{xspaceaddexceptions}{%
4236 }{%
4237 \def\Hy@xspace@end{%
4238 \ltx@gobble{end for xspace}%
4239 }%
4240 \xspaceaddexceptions{%
4241 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4242 }%
4243 }%
4244 }%
4245 }{%
4246 \def\Hy@xspace@end{%
4247 \ltx@gobble{end for xspace}%
4248 }%
4249 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4250 }

```

15.2 Option draft

```

4251 \Hy@AtBeginDocument{%
4252 \ifHy@draft
4253 \let\hyper@@anchor\@gobble
4254 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4255 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4256 \def\hyper@anchorend{\Hy@xspace@end}%
4257 \let\hyper@linkstart\@gobbletwo
4258 \def\hyper@linkend{\Hy@xspace@end}%
4259 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4260 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4261 \def\hyper@link@{#1}#2#3#4{#4\Hy@xspace@end}%
4262 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4263 \let\PDF@SetupDoc\@empty
4264 \let\PDF@FinishDoc\@empty
4265 \let\ReadBookmarks\relax
4266 \let\WriteBookmarks\relax
4267 \Hy@WarningNoLine{Draft mode on}%
4268 \fi
4269 \Hy@DisableOption{draft}%
4270 \Hy@DisableOption{nolinks}%
4271 \Hy@DisableOption{final}%
4272 }

```

15.3 PDF/A

```

4273 \Hy@DisableOption{pdfa}
4274 \ifHy@pdfa
4275 \ifnum \Hy@pdf@majorminor@version < 104
4276 \kvsetkeys{Hyp}{pdfversion=1.4}%
4277 \fi
4278 \Hy@DisableOption{pdfversion}%
4279 \def\Hy@Acrobatmenu#1#2{%
4280 \leavevmode
4281 \begingroup
4282 \edef\x{#1}%
4283 \@onelevel@sanitize\x

```



```

4284 \ifx\x\Hy@NextPage
4285 \let\y=Y%
4286 \else
4287 \ifx\x\Hy@PrevPage
4288 \let\y=Y%
4289 \else
4290 \ifx\x\Hy@FirstPage
4291 \let\y=Y%
4292 \else
4293 \ifx\x\Hy@LastPage
4294 \let\y=Y%
4295 \else
4296 \let\y=N%
4297 \fi
4298 \fi
4299 \fi
4300 \fi
4301 \expandafter\endgroup
4302 \ifx\y Y%
4303 \else
4304 \Hy@Error{%
4305 PDF/A: Named action `#1' is not permitted%
4306 }\@ehc
4307 {#2}%
4308 \expandafter\@gobble
4309 \fi
4310 }%
4311 \def\Hy@temp#1{%
4312 \expandafter\def\csname Hy@#1\endcsname{#1}%
4313 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4314 }%
4315 \Hy@temp{NextPage}%
4316 \Hy@temp{PrevPage}%
4317 \Hy@temp{FirstPage}%
4318 \Hy@temp{LastPage}%
4319 \else
4320 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4321 \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.

change 2020-10-10: no trace of `\texttilde` can be found in the three languages spanish, galician and estonian so the patch has been removed as outdated.

```

4322 \def\Hy@wrapper@babel#1#2{%
4323 \begingroup
4324 \Hy@safe@activestrue
4325 \set@display@protect
4326 \edef\x{#2}%
4327 \@onelevel@sanitize\x
4328 \toks@{#1}%
4329 \edef\x{\endgroup\the\toks@{\x}}%

```

```

4330 \x
4331 }
4332 \def\Hy@WrapperDef#1{%
4333 \begingroup
4334 \escapechar=\m@ne
4335 \xdef\Hy@gtemp{%
4336 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4337 }%
4338 \endgroup
4339 \edef#1{%
4340 \noexpand\Hy@wrapper@babel
4341 \expandafter\noexpand\Hy@gtemp
4342 }%
4343 \expandafter\def\Hy@gtemp
4344 }

4345 \ifHy@hyperfigures
4346 \Hy@Info{Hyper figures ON}%
4347 \else
4348 \Hy@Info{Hyper figures OFF}%
4349 \fi
4350 \ifHy@nesting
4351 \Hy@Info{Link nesting ON}%
4352 \else
4353 \Hy@Info{Link nesting OFF}%
4354 \fi
4355 \ifHy@hyperindex
4356 \Hy@Info{Hyper index ON}%
4357 \else
4358 \Hy@Info{Hyper index OFF}%
4359 \fi
4360 \ifHy@plainpages
4361 \Hy@Info{Plain pages ON}%
4362 \else
4363 \Hy@Info{Plain pages OFF}%
4364 \fi
4365 \ifHy@backref
4366 \Hy@Info{Backreferencing ON}%
4367 \else
4368 \Hy@Info{Backreferencing OFF}%
4369 \fi
4370 \ifHy@implicit
4371 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4372 \else
4373 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4374 \def\MaybeStopEarly{%
4375 \Hy@Message{Stopped early}%
4376 \Hy@AtBeginDocument{%
4377 \PDF@FinishDoc
4378 \gdef\PDF@FinishDoc{}}%
4379 }%
4380 \endinput
4381 }%
4382 \Hy@AtBeginDocument{%
4383 \let\autoref\ref

```

```

4384 \let\autopageref\pageref
4385 \ifx\@pdfpagemode\@empty
4386 \gdef\@pdfpagemode{UseNone}%
4387 \fi
4388 \global\Hy@backreffalse
4389 }%
4390 \Hy@AtEndOfPackage{%
4391 \global\let\ReadBookmarks\relax
4392 \global\let\WriteBookmarks\relax
4393 }%
4394 \fi
4395 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

Ensure that `\stockwidth` and `\stockheight` are defined

```

4396 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4397 \@ifundefined{stockheight}{\newdimen\stockheight}{}

4398 \Hy@AtEndOfPackage{%
4399 \@ifpackageloaded{tex4ht}{%
4400 \def\Hy@driver{htex4ht}%
4401 \Hy@texhttrue
4402 }{}%

```

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.

```

4403 \ifx\Hy@driver\@empty
4404 \else
4405 \ifx\pdfextension\@undefined
4406 \def\Hy@temp{hpdfTeX}%
4407 \else
4408 \def\Hy@temp{hluatex}%
4409 \fi
4410 \ifpdf
4411 \ifx\Hy@driver\Hy@temp
4412 \else
4413 \Hy@WarningNoLine{%
4414 Wrong driver `\'Hy@driver.def';\MessageBreak
4415 pdfTeX is running in PDF mode.\MessageBreak
4416 Forcing driver `\'Hy@temp.def'%
4417 }%
4418 \let\Hy@driver\Hy@temp
4419 \fi
4420 \else
4421 \ifx\Hy@driver\Hy@temp
4422 \Hy@WarningNoLine{%
4423 Wrong driver `\'Hy@driver.def';\MessageBreak
4424 pdfTeX is not running in PDF mode.\MessageBreak
4425 Using default driver%
4426 }%
4427 \let\Hy@driver\@empty
4428 \fi
4429 \fi
4430 \fi

```

```

4431 \ifHy@texht
4432 \else
4433   \ifx\Hy@driver\@empty
4434   \else
4435     \def\Hy@temp{hxtex}%
4436     \ifxetex
4437       \ifx\Hy@driver\Hy@temp
4438       \else
4439         \Hy@WarningNoLine{%
4440           Wrong driver `\'Hy@driver.def';\MessageBreak
4441           XeTeX is running.\MessageBreak
4442           Forcing driver `\'Hy@temp.def' for XeTeX%
4443         }%
4444         \let\Hy@driver\Hy@temp
4445       \fi
4446     \fi
4447   \fi
4448 \fi
4449 \ifx\Hy@driver\@empty
4450 \else
4451   \def\Hy@temp{hhitex}%
4452   \ifhint
4453     \ifx\Hy@driver\Hy@temp
4454     \else
4455       \Hy@WarningNoLine{%
4456         Wrong driver `\'Hy@driver.def';\MessageBreak
4457         hitex is running.\MessageBreak
4458         Forcing driver `\'Hy@temp.def'%
4459       }%
4460       \let\Hy@driver\Hy@temp
4461     \fi
4462   \fi
4463 \fi
4464 \ifx\Hy@driver\@empty
4465 \else
4466   \def\Hy@temp{hvtexhtm}%
4467   \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4468     \ifx\Hy@driver\Hy@temp
4469     \else
4470       \Hy@WarningNoLine{%
4471         Wrong driver `\'Hy@driver.def';\MessageBreak
4472         VTeX is running in HTML mode.\MessageBreak
4473         Forcing driver `\'Hy@temp.def'%
4474       }%
4475       \let\Hy@driver\Hy@temp
4476     \fi
4477   \else
4478     \ifx\Hy@driver\Hy@temp
4479     \Hy@WarningNoLine{%
4480       Wrong driver `\'Hy@driver.def';\MessageBreak
4481       VTeX is not running in HTML mode.\MessageBreak
4482       Using default driver%
4483     }%
4484     \let\Hy@driver\@empty

```

```

4485 \fi
4486 \fi
4487 \fi

```

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

```

4488 \let\HyOpt@DriverType\ltx@empty
4489 \ifx\HyOpt@CustomDriver\ltx@empty
4490 \ifx\Hy@driver\@empty
4491 \def\HyOpt@DriverType{ (autodetected)}%
4492 \providecommand*{\Hy@defaultdriver}{hdvips}%
4493 \ifpdf
4494 \ifx\pdfextension\@undefined
4495 \def\Hy@driver{hpdfTeX}%
4496 \else
4497 \def\Hy@driver{hluatex}%
4498 \fi
4499 \else
4500 \ifxetex
4501 \def\Hy@driver{hxetex}%
4502 \else
4503 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4504 \def\Hy@driver{hvtexhtm}%
4505 \def\MaybeStopEarly{%
4506 \Hy@Message{Stopped early}}%
4507 \Hy@AtBeginDocument{%
4508 \PDF@FinishDoc
4509 \gdef\PDF@FinishDoc{}}%
4510 }%
4511 \endinput
4512 }%
4513 \else
4514 \ifhint
4515 \def\Hy@driver{hhitex}
4516 \else
4517 \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4518 \def\Hy@driver{hvtex}%
4519 \else
4520 \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4521 \def\Hy@driver{hvtex}%
4522 \else
4523 \ifx\HyOpt@DriverFallback\ltx@empty
4524 \let\Hy@driver\Hy@defaultdriver
4525 \def\HyOpt@DriverType{ (default)}%
4526 \else
4527 \begingroup
4528 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4529 \edef\x{\endgroup
4530 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4531 }%
4532 \x
4533 \ifx\Hy@driver\ltx@empty
4534 \let\Hy@driver\Hy@defaultdriver
4535 \def\HyOpt@DriverType{ (default)}%
4536 \else
4537 \def\HyOpt@DriverType{ (fallback)}%

```

```

4538         \fi
4539     \fi
4540 \fi
4541 \fi
4542 \fi
4543 \fi
4544 \fi
4545 \fi
4546 \ifx\Hy@driver\Hy@defaultdriver
4547 \def\Hy@temp{hdvwind}%
4548 \ifx\Hy@temp\Hy@driver
4549 \kvsetkeys{Hyp}{colorlinks}%
4550 \PassOptionsToPackage{dviwindo}{color}%
4551 \fi
4552 \fi
4553 \fi
4554 \else
4555 \def\HyOpt@DriverType{ (custom)}%
4556 \let\Hy@driver\HyOpt@CustomDriver
4557 \fi
4558 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4559 \chardef\Hy@VersionChecked=0 %
4560 \input{\Hy@driver.def}%
4561 \ifcase\Hy@VersionChecked
4562 \Hy@VersionCheck{\Hy@driver.def}%
4563 \fi
4564 \let\@unprocessedoptions\relax
4565 \Hy@RestoreCatcodes
4566 \Hy@DisableOption{tex4ht}%
4567 \Hy@DisableOption{pdftex}%
4568 \Hy@DisableOption{nativepdf}%
4569 \Hy@DisableOption{dvipdfm}%
4570 \Hy@DisableOption{dvipdfmx}%
4571 \Hy@DisableOption{dvipdfmx-outline-open}%
4572 \Hy@DisableOption{pdfmark}%
4573 \Hy@DisableOption{dvips}%
4574 \Hy@DisableOption{hypertex}%
4575 \Hy@DisableOption{vtex}%
4576 \Hy@DisableOption{vtxpdfmark}%
4577 \Hy@DisableOption{dviwindo}%
4578 \Hy@DisableOption{dvipsone}%
4579 \Hy@DisableOption{textures}%
4580 \Hy@DisableOption{latex2html}%
4581 \Hy@DisableOption{ps2pdf}%
4582 \Hy@DisableOption{xetex}%
4583 \Hy@DisableOption{driverfallback}%
4584 \Hy@DisableOption{customdriver}%
4585 \Hy@DisableOption{pdfversion}%
4586 }

```

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.

```

4587 \newif\ifHy@DvipdfmxOutlineOpen

```

```

4588 \ifxetex
4589 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4590 \else
4591 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4592 \Hy@DvipdfmxOutlineOpentruue
4593 \fi
4594 \fi
4595 \begingroup\expandafter\expandafter\expandafter\endgroup
4596 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4597 \else
4598 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4599 \Hy@DvipdfmxOutlineOpentruue
4600 \fi
4601 \fi

```

15.4.2 Bookmarks

```

4602 \def\WriteBookmarks{0}
4603 \def\@bookmarkopenstatus#1{%
4604 \ifHy@bookmarksopen

```

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

```

4605 \ifnum#1<\expandafter\@firstofone\expandafter
4606 \{\number\@bookmarksopenlevel} % explicit space
4607 \else
4608 -%
4609 \fi
4610 \else
4611 -%
4612 \fi
4613 }
4614 \ifHy@bookmarks
4615 \Hy@Info{Bookmarks ON}%
4616 \ifx\@pdfpagemode\@empty
4617 \def\@pdfpagemode{UseOutlines}%
4618 \fi
4619 \else
4620 \let\@bookmarkopenstatus\ltx@gobble
4621 \Hy@Info{Bookmarks OFF}%
4622 \Hy@AtEndOfPackage{%
4623 \global\let\ReadBookmarks\relax
4624 \global\let\WriteBookmarks\relax
4625 }%
4626 \ifx\@pdfpagemode\@empty
4627 \def\@pdfpagemode{UseNone}%
4628 \fi
4629 \fi
4630 \Hy@DisableOption{bookmarks}

```

Add wrapper for setting standard catcodes (babel's shorthands).

```

4631 \def\Hy@CatcodeWrapper#1{%
4632 \let\Hy@endWrap\ltx@empty
4633 \def\TMP@EnsureCode##1##2{%
4634 \edef\Hy@endWrap{%

```

```

4635 \Hy@EndWrap
4636 \catcode##1 \the\catcode##1\relax
4637 }%
4638 \catcode##1 ##2\relax
4639 }%
4640 \TMP@EnsureCode{10}{12}% ^^J
4641 \TMP@EnsureCode{33}{12}% !
4642 \TMP@EnsureCode{34}{12}% "
4643 \TMP@EnsureCode{36}{3}% $ (math)
4644 \TMP@EnsureCode{38}{4}% & (alignment)
4645 \TMP@EnsureCode{39}{12}% '
4646 \TMP@EnsureCode{40}{12}% (
4647 \TMP@EnsureCode{41}{12}% )
4648 \TMP@EnsureCode{42}{12}% *
4649 \TMP@EnsureCode{43}{12}% +
4650 \TMP@EnsureCode{44}{12}% ,
4651 \TMP@EnsureCode{45}{12}% -
4652 \TMP@EnsureCode{46}{12}% .
4653 \TMP@EnsureCode{47}{12}% /
4654 \TMP@EnsureCode{58}{12}% :
4655 \TMP@EnsureCode{59}{12}% ;
4656 \TMP@EnsureCode{60}{12}% <
4657 \TMP@EnsureCode{61}{12}% =
4658 \TMP@EnsureCode{62}{12}% >
4659 \TMP@EnsureCode{63}{12}% ?
4660 \TMP@EnsureCode{91}{12}% [
4661 \TMP@EnsureCode{93}{12}% ]
4662 \TMP@EnsureCode{94}{7}% ^ (superscript)
4663 \TMP@EnsureCode{95}{8}% _ (subscript)
4664 \TMP@EnsureCode{96}{12}% `
4665 \TMP@EnsureCode{124}{12}% |
4666 \TMP@EnsureCode{126}{13}% ~ (active)
4667 ##1\relax
4668 \Hy@EndWrap
4669 }

```

\HyColor@UseColor expects a macro as argument. It contains the color specification.

```

4670 \Hy@AtBeginDocument{%
4671 \ifHy@ocgcolorlinks
4672 \kvsetkeys{Hyp}{colorlinks}%
4673 \ifHy@pdfa
4674 \Hy@Warning{%
4675 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4676 using `colorlinks' instead of `ocgcolorlinks'%
4677 }%
4678 \Hy@ocgcolorlinksfalse
4679 \fi
4680 \fi
4681 \ifHy@ocgcolorlinks
4682 \else
4683 \Hy@DisableOption{ocgcolorlinks}%
4684 \fi
4685 \ifHy@colorlinks
4686 \def\@pdfborder{0 0 0}%

```



```

4687 \let\@pdfborderstyle\@empty
4688 \Hy@CatcodeWrapper{%
4689   \RequirePackage{color}%
4690 }%
4691 \def\Hy@colorlink#1{%
4692   \begingroup
4693   \HyColor@UseColor#1%
4694 }%
4695 \def\Hy@endcolorlink{\endgroup}%
4696 \Hy@Info{Link coloring ON}%
4697 \else
4698 \ifHy@frenchlinks
4699   \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4700   \def\Hy@endcolorlink{\endgroup}%
4701   \Hy@Info{French linking ON}%
4702 \else

```

for grouping consistency:

```

4703   \def\Hy@colorlink#1{\begingroup}%
4704   \def\Hy@endcolorlink{\endgroup}%
4705   \Hy@Info{Link coloring OFF}%
4706 \fi
4707 \fi
4708 \Hy@DisableOption{colorlinks}%
4709 \Hy@DisableOption{frenchlinks}%
4710 \ifHy@texht
4711 \else

```

With active links we have to redefine the starred versions to avoid that they get links from the include \@setref:

```

4712 \ifHy@implicit
4713   \let \T@Ref\HyRef@Ref
4714   \def\@refstar#1{%
4715     \NR@ref@showkeys{#1}%
4716     \HyRef@StarSetRef{#1}\@firstoffive
4717   }
4718   \def\@pagerefstar#1{%
4719     \NR@ref@showkeys{#1}%
4720     \HyRef@StarSetRef{#1}\@secondoffive
4721   }
4722   \def\@namerefstar#1{%
4723     \NR@ref@showkeys{#1}%
4724     \HyRef@StarSetRef{#1}\@thirdoffive
4725   }
4726   \def\@Refstar#1{%
4727     \NR@ref@showkeys{#1}%
4728     \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4729   }%
4730 \else
4731 \fi
4732 \fi
4733 }
4734 \Hy@AtBeginDocument{%
4735   \ifx\ReadBookmarks\relax
4736   \else

```

```

4737 \Hy@CatcodeWrapper\ReadBookmarks
4738 \fi
4739 }
4740 \ifHy@backref
4741 \RequirePackage{backref}%
4742 \else
4743 \let\Hy@backout\@gobble
4744 \fi
4745 \Hy@DisableOption{backref}
4746 \Hy@DisableOption{pagebackref}
4747 \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.

```

4748 \begingroup
4749 \endlinechar=-1 %
4750 \catcode\^^A=14 %
4751 \catcode\^^M\active
4752 \catcode\%\active
4753 \catcode\#\active
4754 \catcode\_ \active
4755 \catcode\$ \active
4756 \catcode\& \active
4757 \gdef\hyper@normalise{^^A
4758 \begingroup
4759 \catcode\^^M\active
4760 \def^^M{ }^^A
4761 \catcode\%\active
4762 \let%\@percentchar
4763 \let\%\@percentchar
4764 \catcode\#\active
4765 \def#{\hyper@hash}^^A
4766 \def\#{\hyper@hash}^^A
4767 \@makeother\&^^A
4768 \edef&{\string&}^^A
4769 \edef\&{\string&}^^A
4770 \edef\textunderscore{\string_}^^A
4771 \let\_ \textunderscore
4772 \catcode\_ \active
4773 \let\_ \textunderscore
4774 \let~\hyper@tilde
4775 \let~\hyper@tilde
4776 \let\textasciitilde\hyper@tilde
4777 \let\\ \@backslashchar
4778 \edef$\{ \string$ }^^A
4779 \Hy@safe@activetrue

```

```

4780 \hyper@n@rmalise
4781 }^^A
4782 \catcode\#=6 ^^A
4783 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4784 \gdef\hyper@n@rmalise#1#2{^^A
4785 \def\Hy@tempa{#2}^^A
4786 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4787 \ltx@ReturnAfterElseFi{^^A
4788 \hyper@@normalise{#1}^^A
4789 }^^A
4790 \else
4791 \ltx@ReturnAfterFi{^^A
4792 \hyper@@normalise{#1}{#2}^^A
4793 }^^A
4794 \fi
4795 }^^A
4796 \gdef\hyper@@normalise#1#2{^^A
4797 \edef\Hy@tempa{^^A
4798 \endgroup
4799 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4800 }^^A
4801 \Hy@tempa
4802 }^^A
4803 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4804 #1^^A
4805 \ifx\limits#2\limits
4806 \else
4807 \ltx@ReturnAfterFi{^^A
4808 \Hy@RemovePercentCr #2\@nil
4809 }^^A
4810 \fi
4811 }^^A
4812 \endgroup
4813 \providecommand*\hyper@chars{%
4814 \let\#\hyper@hash
4815 \let\%\@percentchar
4816 \Hy@safe@activetrue
4817 }

4818 \def\hyperlink#1#2{%
4819 \hyper@@link{}{#1}{#2}%
4820 }

4821 \def\Hy@VerboseLinkStart#1#2{%
4822 \ifHy@verbose
4823 \begingroup
4824 \Hy@safe@activetrue
4825 \xdef\Hy@VerboseGlobalTemp{(#1) `#2}%
4826 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4827 \xdef\Hy@VerboseGlobalTemp{%
4828 \Hy@VerboseGlobalTemp, %
4829 line \the\inputlineno
4830 }%
4831 \endgroup
4832 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp

```

```

4833 \@onelevel@sanitize\Hy@VerboseLinkInfo
4834 \fi
4835 }

4836 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4837 \def\Hy@VerboseLinkStop{%
4838 \ifHy@verbose
4839 \begingroup
4840 \edef\x{\endgroup
4841 \write\m@ne{%
4842 Package `hyperref' Info: %
4843 End of reference \Hy@VerboseLinkInfo.%
4844 }%
4845 }%
4846 \x
4847 \fi
4848 }

4849 \def\Hy@VerboseAnchor#1{%
4850 \ifHy@verbose
4851 \begingroup
4852 \Hy@safe@activestrue
4853 \Hy@Info{Anchor `\'HyperDestNameFilter{#1}'}%
4854 \endgroup
4855 \fi
4856 }

4857 \def\Hy@AllowHyphens{%
4858 \relax
4859 \ifhmode
4860 \penalty\@M
4861 \hskip\z@skip
4862 \fi
4863 }

4864 \DeclareRobustCommand*{\href}[1][]{%
4865 \begingroup
4866 \setkeys{href}{#1}%
4867 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4868 }
4869 \def\Hy@href#1{%
4870 \hyper@normalise\href@
4871 }
4872 \begingroup
4873 \catcode`\$=6 %
4874 \catcode`\#=12 %
4875 \gdef\href@\$1{\expandafter\href@split$1##\}%
4876 \gdef\href@split$1##$2##$3\\$4{%
4877 \hyper@@link{$1}{$2}{$3}{$4}%
4878 \endgroup
4879 }%
4880 \endgroup

Option 'page'.
4881 \define@key{href}{page}{%
4882 \def\Hy@href@page{#1}%
4883 }

```

```

4884 \let\Hy@href@page\@empty
4885 \newcount\c@Hy@tempcnt
4886 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4887 \def\Hy@MakeRemoteAction{%
4888   \ifx\Hy@href@page\@empty
4889     \def\Hy@href@page{0}%
4890   \else
4891     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4892     \ifnum\c@Hy@tempcnt<\@ne
4893       \Hy@Warning{%
4894         Invalid page number (\theHy@tempcnt)\MessageBreak
4895         for remote PDF file.\MessageBreak
4896         Using page 1%
4897       }%
4898     \def\Hy@href@page{0}%
4899   \else
4900     \global\advance\c@Hy@tempcnt\m@ne
4901     \edef\Hy@href@page{\theHy@tempcnt}%
4902   \fi
4903 \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.

```

4904 \ifx\Hy@href@nextactionraw\@empty
4905 \else
4906   \Hy@pdfnewwindowsettrue
4907   \Hy@pdfnewwindowtrue
4908 \fi
4909 }

```

Option ‘pdfremotestartview’.

```

4910 \define@key{href}{pdfremotestartview}{%
4911   \setkeys{Hyp}{pdfremotestartview={#1}}%
4912 }

```

Option ‘pdfnewwindow’.

```

4913 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4914 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4915 \newif\ifHy@href@ismap
4916 \define@key{href}{ismap}[true]{%
4917   \ltx@ifundefined{Hy@href@ismap#1}{%
4918     \Hy@Error{%
4919       Invalid value (#1) for key `ismap'.\MessageBreak
4920       Permitted values are `true' or `false'.\MessageBreak
4921       Ignoring `ismap'%
4922     }\@ehc
4923   }{%
4924     \csname Hy@href@ismap#1\endcsname
4925   }%
4926 }

```

Option ‘nextactionraw’.

```

4927 \let\Hy@href@nextactionraw\@empty
4928 \define@key{href}{nextactionraw}{%

```

```

4929 \edef\Hy@href@nextactionraw{#1}%
4930 \ifx\Hy@href@nextactionraw\@empty
4931 \else
4932 \Hy@Match\Hy@href@nextactionraw{%
4933 ~(\HyPat@ObjRef/|<<.*[/S[/.+>>|}%
4934 \[( ?\HyPat@ObjRef/|<<.*[/S[/.+>>)+ ?)]$%
4935 }%}%
4936 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4937 \Hy@href@nextactionraw\MessageBreak
4938 The action is discarded%
4939 }%
4940 }%
4941 \ifx\Hy@href@nextactionraw\@empty
4942 \else
4943 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4944 \fi
4945 \fi
4946 }
4947 \def\HyPat@ObjRef/{.+}

```

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

```

4948 \RequirePackage{url}
4949 \let\HyOrg@url\url
4950 \def\Hurl{\begingroup \Url}
4951 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4952 \def\nolinkurl@#1{\Hurl{#1}}
4953 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4954 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4955 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4956 \providecommand\hyper@image[2]{#2}
4957 \def\hypertarget#1#2{%
4958 \ifHy@nesting
4959 \hyper@@anchor{#1}{#2}%
4960 \else
4961 \hyper@@anchor{#1}{\relax}#2%
4962 \fi
4963 }

```

`\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.

```

4964 \DeclareRobustCommand*{\hyperref}{%
4965 \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4966 }
4967 \def\Hy@babelnormalise#1[#2]{%
4968 \begingroup
4969 \Hy@safe@activetrue
4970 \let\protect\@unexpandable@protect
4971 \edef\Hy@tempa{%

```

```

4972 \endgroup
4973 \noexpand#1[{\#2}]%
4974 }%
4975 \Hy@tempa
4976 }
4977 \def\@hyperref{\hyper@normalise\@hyperref}
4978 \def\@hyperref#1#2#3{%
4979 \edef\ref@one{\ifx\#2\#2\else#2.\fi#3}%
4980 \expandafter\tryhyper@link\ref@one\{#1}%
4981 }
4982 \def\tryhyper@link#1\#2{%
4983 \hyper@@link{#2}{#1}%
4984 }

4985 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4986 \def\@hyperdef#1#2#3{%, category, name, text
4987 \ifx\#1\%
4988 \def\Hy@AnchorName{#2}%
4989 \else
4990 \def\Hy@AnchorName{#1.#2}%
4991 \fi
4992 \ifHy@nesting
4993 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4994 \else
4995 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#3}%
4996 \fi
4997 }

```

We also have a need to give a L^AT_EX *label* to a hyper reference, to ease the pain of referring to it later. `\hyperrefundefinedlink` may be redefined by a user to add colour or other formatting.

```

4998 \let\hyperrefundefinedlink\@firstofone
4999 \def\label@hyperref[#1]{%
5000 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5001 }%
5002 \def\label@@hyperref#1#2#3{%
5003 \ifx#1\relax
5004 \protect\G@refundefinedtrue
5005 \@latex@warning{%
5006 Hyper reference `#2' on page \thepage \space undefined%
5007 }%
5008 \begingroup
5009 \hyperrefundefinedlink{#3}%
5010 \endgroup
5011 \else
5012 \hyper@@link{\expandafter\@fifthoffive#1}%
5013 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5014 \fi
5015 }
5016 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5017 % anchor text
5018 \@bsphack
5019 \ifx\#2\%
5020 \def\Hy@AnchorName{#3}%
5021 \else

```

```

5022 \def\Hy@AnchorName{#2.#3}%
5023 \fi
5024 \if@filesw
5025 \protected@write\@auxout{}\{}%
5026 \string\newlabel{#1}{\{}{\}\Hy@AnchorName}{\}}%
5027 }%
5028 \fi
5029 \@esphack
5030 \ifHy@nesting
5031 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5032 \else
5033 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5034 \fi
5035 }

```

`\hyperget` To create manually bookmarks one need the destination name. If there is a label, the name can be retrieved with commands from `refcount`. Such a destination name must take `\HyperDestNameFilter` into account

```
\HyperDestNameFilter{\getrefbykeydefault{label}{anchor}{Doc-Start}}
```

To make this easier, we define `\hyperget`

```

5036 \ExplSyntaxOn
5037 \cs_new:Npn \hyperget #1 #2
5038 {
5039 \use:c { __hyp_get_#1:n } { #2}
5040 }
5041
5042 \cs_new:Npn \__hyp_get_anchor:n #1
5043 {
5044 \HyperDestNameFilter
5045 {
5046 \cs_if_exist:cTF {r@#1}
5047 {
5048 \tl_item:cn {r@#1}{4}
5049 }
5050 {
5051 Doc-Start
5052 }
5053 }
5054 }
5055 \cs_new:Npn \__hyp_get_pageanchor:n #1
5056 {
5057 \HyperDestNameFilter
5058 {
5059 \cs_if_exist:cTF {r@#1}
5060 {
5061 page. \tl_item:cn {r@#1}{2}
5062 }
5063 {
5064 Doc-Start
5065 }
5066 }
5067 }

```



```

5068 \cs_new:Npn \__hyp_get_currentanchor:n #1
5069 {
5070   \HyperDestNameFilter { \@currentHref }
5071 }
5072 \ExplSyntaxOff

```

16.1 Link box support for XeTeX

```

5073 \newdimen\XeTeXLinkMargin
5074 \setlength{\XeTeXLinkMargin}{2pt}
5075 \ifxetex
5076   \font\XeTeXLink@font=pzdr at 1sp\relax
5077   \newcommand*{\XeTeXLink@space}{%
5078     \begingroup
5079       \XeTeXLink@font
5080       \@xxxii
5081     \endgroup
5082   }%
5083   \newcommand{\XeTeXLinkBox}[1]{%
5084     \begingroup
5085       \leavevmode
5086       \sbox\z@{#1}%
5087       \begingroup
5088         \dimen@=\dp\z@
5089         \advance\dimen@\XeTeXLinkMargin
5090         \setbox\tw@=\llap{%
5091           \hb@xt@\XeTeXLinkMargin{%
5092             \lower\dimen@\hbox{\XeTeXLink@space}%
5093             \hss
5094           }%
5095         }%
5096         \dp\tw@=\dp\z@
5097         \ht\tw@=\ht\z@
5098         \copy\tw@
5099       \endgroup
5100       \copy\z@
5101       \dimen@=\ht\z@
5102       \advance\dimen@\XeTeXLinkMargin
5103       \setbox\tw@=\rlap{%
5104         \hb@xt@\XeTeXLinkMargin{%
5105           \hss
5106           \raise\dimen@\hbox{\XeTeXLink@space}%
5107         }%
5108       }%
5109       \dp\tw@=\dp\z@
5110       \ht\tw@=\ht\z@
5111       \copy\tw@
5112     \endgroup
5113   }%
5114 \else
5115   \newcommand*{\XeTeXLinkBox}[1]{%
5116     \begingroup
5117       \leavevmode
5118       \sbox\z@{#1}%

```

```

5119 \copy\z@
5120 \endgroup
5121 }%
5122 \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, its an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

5123 \def\hyper@@link{\let\Hy@reserved@a\relax
5124 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5125 }
5126 % #1: type
5127 % #2: URL
5128 % #3: destination name
5129 % #4: text
5130 \def\hyper@link@[#1]#2#3#4{%
5131 \ltx@ifempty{#4}{% link text
5132 \Hy@Warning{Suppressing empty link}%
5133 }{%
5134 \begingroup
5135 \protected@edef\Hy@tempa{#2}%
5136 \edef\Hy@tempb{#3}%
5137 \ifx\Hy@tempa\ltx@empty
5138 \ifx\Hy@tempb\ltx@empty
5139 \Hy@Warning{Suppressing link with empty target}%
5140 \toks@{%
5141 \endgroup
5142 \ltx@secondoftwo
5143 }%
5144 \else
5145 \toks@{%
5146 \endgroup
5147 \hyper@link{#1}%
5148 }%
5149 \fi
5150 \else
5151 \toks@{%
5152 \endgroup
5153 \expandafter\hyper@readexternallink#2\{\{#1}%
5154 }%
5155 \fi
5156 \Hy@safe@activesfalse
5157 \toks@\expandafter{%
5158 \the\expandafter\toks@
5159 \expandafter{\Hy@tempb}{#4}%
5160 }%
5161 \the\toks@
5162 }%
5163 }

```

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.

```

5164 \def\hyper@readexternallink#1\|#2#3#4{%
5165   \begingroup
5166     \let\\\relax
5167   \expandafter\endgroup
5168   \expandafter\@hyper@@readexternallink#1\#{#2}{#3}{#4}%
5169 }
5170 \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.

```

5171 \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
5172 }

```

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

```

5173 \def\@pdftempwordfile{file}%
5174 \def\@pdftempwordrun{run}%
5175 \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:

```

5176 \ifx\\\#6\\\%
5177   \@hyper@linkfile file:#7\\\#{#3}{#2}{#7}%
5178 \else
5179   \ifx\\\#4\\\%
5180     \@hyper@linkfile file:#7\\\#{#3}{#2}{#7}%
5181   \else

```

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

```

5182   \def\@pdftempa{#4}%
5183   \ifx\@pdftempa\@pdftempwordfile
5184     \@hyper@linkfile#7\\\#{#3}{#2}{#7}%
5185   \else

```

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

```

5186     \ifx\@pdftempa\@pdftempwordrun
5187       \ifHy@pdfa
5188         \Hy@Error{%
5189           PDF/A: Launch action is prohibited%

```

```

5190      }\@ehc
5191      \begingroup
5192      \leavevmode
5193      #2%
5194      \endgroup
5195      \else
5196      \@hyper@launch#7\{\#3\}\#2}%
5197      \fi
5198      \else

```

otherwise its a URL

```

5199      \hyper@linkurl{\#3\}\#7\ifx\#2\\\else\hyper@hash#2\fi}%
5200      \fi
5201      \fi
5202      \fi
5203      \fi
5204      }

```

By default, turn run: into file:

```

5205 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5206 \hyper@linkurl{\#2\}%
5207 \Hy@linkfileprefix
5208 #1%
5209 \ifx\#3\\\%
5210 \else
5211 \hyper@hash
5212 #3%
5213 \fi
5214 }%
5215 }

```

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

```

5216 \def\@hyper@linkfile file:#1\#2#3#4{%
5217 %file url,link string, name, original uri
5218 \filename@parse{\#1}%
5219 \ifx\filename@ext\relax
5220 \edef\filename@ext{\XR@ext}%
5221 \fi
5222 \def\use@file{\filename@area\filename@base.\filename@ext}%
5223 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5224 \hyper@linkfile{\#2\}\use@file\#3}%
5225 }{%
5226 \ifx\@baseurl\@empty
5227 \hyper@linkurl{\#2\}%
5228 #4\ifx\#3\\\else\hyper@hash#3\fi
5229 }%
5230 \else
5231 \hyper@linkurl{\#2\}\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
5232 \fi
5233 }%
5234 }

5235 \def\Hy@ifStringEndsWith#1#2{%
5236 \begingroup
5237 \edef\x{\#1}%

```

```

5238 \@onelevel@sanitize\x
5239 \edef\x{.\x$}%
5240 \edef\y{#2}%
5241 \@onelevel@sanitize\y
5242 \edef\y{.\y$}%
5243 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5244 \endgroup
5245 \ifx\relax##2\relax
5246 \expandafter\ltx@secondoftwo
5247 \else
5248 \expandafter\ltx@firstoftwo
5249 \fi
5250 }%
5251 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5252 }

5253 \def\Hy@StringLocalhost{localhost}
5254 \@onelevel@sanitize\Hy@StringLocalhost
5255 \def\Hy@CleanupFile#1{%
5256 \edef#1{#1}%
5257 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5258 }
5259 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5260 \begingroup
5261 \toks@{\endgroup}%
5262 \def\x{#1}%
5263 \ifx\x\@empty
5264 \def\x{#2}%
5265 \ifx\x\@empty
5266 \toks@{\endgroup\def#5{/#3}}%
5267 \else
5268 \@onelevel@sanitize\x
5269 \ifx\x\Hy@StringLocalhost
5270 \toks@{\endgroup\def#5{/#3}}%
5271 \fi
5272 \fi
5273 \fi
5274 \the\toks@
5275 }

```

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.

```

5276 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5277 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5278 \ifx\#1\%
5279 #2\Hy@Warning{Ignoring empty anchor}%
5280 \else
5281 \def\anchor@spot{#2#3}%
5282 \let\put@me@back\@empty
5283 \ifx\relax#2\relax

```

```

5284 \else
5285 \ifHy@nesting
5286 \else
5287 \ifcat a\noexpand#2\relax
5288 \else
5289 \ifcat 0\noexpand#2 \relax
5290 \else
5291 % \typeout{Anchor start is not alphanumeric %
5292 % on input line\the\inputlineno%
5293 % }%
5294 \let\anchor@spot\@empty
5295 \def\put@me@back{#2#3}%
5296 \fi
5297 \fi
5298 \fi
5299 \fi
5300 \ifHy@activeanchor
5301 \anchor@spot
5302 \else
5303 \hyper@anchor{#1}%
5304 \fi
5305 \expandafter\put@me@back
5306 \fi
5307 \let\anchor@spot\@empty
5308 }
5309 \let\anchor@spot\ltx@empty

```

18 Option ‘destlabel’

```

5310 \ifHy@destlabel

\hyper@newdestlabel

5311 \def\hyper@newdestlabel#1#2{%
5312 \begingroup
5313 \Hy@safe@activetrue
5314 \edef\x{\endgroup
5315 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5316 }%
5317 \x
5318 }%

\hyper@destlabel@hook

5319 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5320 \newcommand*\Hy@DestRename[2]{%
5321 \ltx@ifundefined{HyDL!#1}{%
5322 \begingroup
5323 \Hy@safe@activetrue
5324 \edef\dest@name{#1}%
5325 \edef\label@name{#2}%
5326 \hyper@destlabel@hook
5327 \Hy@IsNotEmpty{dest@name}{%

```

```

5328     \Hy@IsNotEmpty{label@name}{%
5329     \global\expandafter
5330     \let\csname HyDL!#1\endcsname\ltx@empty
5331     \if@files
5332     \protected@write\@auxout{}{%
5333     \string\hyper@newdestlabel
5334     {#1}%
5335     {\label@name}%
5336     }%
5337     \fi
5338     }%
5339     }%
5340     \endgroup
5341     }{}%
5342     }%

```

\HyperDestRename

```

5343 \newcommand*{\HyperDestRename}[2]{%
5344 \AtBeginDocument{%
5345 \Hy@DestRename{#1}{#2}%
5346 }%
5347 }%
5348 \AtBeginDocument{%
5349 \let\HyperDestRename\Hy@DestRename
5350 }%

```

\Hy@IsNotEmpty

```

5351 \def\Hy@IsNotEmpty#1{%
5352 \ltx@ifundefined{#1}\ltx@gobble{%
5353 \expandafter\ifx\csname#1\endcsname\ltx@empty
5354 \expandafter\ltx@gobble
5355 \else
5356 \expandafter\ltx@firstofone
5357 \fi
5358 }%
5359 }%

5360 \ltx@GlobalAppendToMacro\label@hook{%
5361 \HyperDestRename\@currentHref\label@name
5362 }%

```

\HyperDestLabelReplace

```

5363 \def\HyperDestLabelReplace#1{%
5364 \ltx@ifundefined{HyDL@#1}{%
5365 #1%
5366 }{%
5367 \csname HyDL@#1\endcsname
5368 }%
5369 }%

```

\HyperDestNameFilter

```

5370 \let\HyperDestNameFilter\HyperDestLabelReplace
5371 \else

```

```

\hyper@newdestlabel
5372 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5373 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
5374 \let\HyperDestRename\ltx@gobbletwo

5375 \fi
5376 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5377 \AddToHook{include/before}
5378 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}
5379 \AddToHook{begindocument}
5380 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}

```

19 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.

19.1 Field flags

The field flags are organized in a bit set.

```
5381 \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
5382 \def\HyField@NewFlag#1#2{%
5383 \lowercase{\HyField@NewOption{#2}}%
5384 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5385 }

\HyField@NewFlagOnly
5386 \def\HyField@NewFlagOnly#1#2{%
5387 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5388 }

```


\HyField@NewOption #1: option name

```
5389 \def\HyField@NewOption#1{%
5390   \expandafter\newif\csname ifFld@#1\endcsname
5391   \define@key{Field}{#1}[true]{%
5392     \lowercase{\Field@boolkey{##1}}{#1}%
5393   }%
5394 }
```

\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

```
5395 \def\HyField@NewBitsetFlag#1#2#3#4{%
5396   \begingroup
5397     \count@=#4\relax
5398     \advance\count@\m@ne
5399     \def\x##1{%
5400       \endgroup
5401       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5402       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5403         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5404           (\number#4) #2%
5405         }%
5406       \else
5407         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5408           \csname HyField@#3@#1\endcsname
5409           /#2%
5410         }%
5411       \fi
5412     }%
5413   \expandafter\x\expandafter{\the\count@}%
5414 }
```

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

```
5415 \def\HyField@UseFlag#1#2{%
5416   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5417 }
```

\HyField@@UseFlag

```
5418 \def\HyField@@UseFlag#1#2{%
5419   \bitsetSetValue{HyField@#2}{%
5420     \csname HyField@#2@#1\endcsname
5421   }{%
5422     \csname ifFld@#1\endcsname 1\else 0\fi
5423   }%
5424 }
```

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

```
5425 \def\HyField@SetFlag#1#2{%
5426   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5427 }
```

\HyField@@SetFlag

```
5428 \def\HyField@@SetFlag#1#2{%
5429   \bitsetSetValue{HyField@#2}{%
5430     \csname HyField@#2@#1\endcsname
5431   }{1}%
5432 }
```

\HyField@PrintFlags

```
5433 \def\HyField@PrintFlags#1#2{%
5434   \ifHy@verbose
5435     \begingroup
5436       \let\Hy@temp\@empty
5437       \let\MessageBreak\relax
5438       \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5439       \bitsetGetSetBitList{HyField@#1}\do{%
5440         \edef\Hy@temp{%
5441           \Hy@temp
5442           \csname HyField@#1@\x\endcsname\MessageBreak
5443         }%
5444       }%
5445     \edef\x{\endgroup
5446       \noexpand\Hy@Info{%
5447         Field flags: %
5448         \expandafter\ifx\@car#1\@nil S\else/\fi
5449         #1 %
5450         \bitsetGetDec{HyField@#1} %
5451         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5452         \Hy@temp
5453         for #2%
5454       }%
5455     }\x
5456   \fi
5457 }
```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5458 \HyField@NewFlag{Ff}{ReadOnly}{1}
5459 \HyField@NewFlag{Ff}{Required}{2}
5460 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5461 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5462 \HyField@NewFlag{Ff}{Radio}{16}
5463 \HyField@NewFlag{Ff}{Pushbutton}{17}
5464 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5465 \HyField@NewFlag{Ff}{Multiline}{13}
5466 \HyField@NewFlag{Ff}{Password}{14}
5467 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5468 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5469 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5470 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5471 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
5472 \HyField@NewFlag{Ff}{Combo}{18}
5473 \HyField@NewFlag{Ff}{Edit}{19}
5474 \HyField@NewFlag{Ff}{Sort}{20}
5475 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5476 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5477 \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.

```
5478 \newif\ifFld@popdown
5479 \define@key{Field}{popdown}[true]{%
5480   \lowercase{\Field@boolkey{#1}}{popdown}%
5481 }
```

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.

```
5482 \HyField@NewFlag{F}{Invisible}{1}
5483 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5484 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5485 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5486 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5487 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5488 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5489 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5490 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5491 \ifHy@pdfa
5492   \def\HyField@PDFAFFlagWarning#1#2{%
5493     \Hy@Warning{%
5494       PDF/A: Annotation flag `#1' must\MessageBreak
5495       be set to `#2'%
5496     }%
5497   }%
5498   \Fld@invisiblefalse
5499   \def\Fld@invisibletrue{%
5500     \HyField@PDFAFFlagWarning{invisible}{false}%
5501   }%
5502   \Fld@hiddenfalse
5503   \def\Fld@hiddenttrue{%
5504     \HyField@PDFAFFlagWarning{hidden}{false}%
5505   }%
5506   \Fld@printtrue
5507   \def\Fld@printfalse{%
5508     \HyField@PDFAFFlagWarning{print}{true}%
5509   }%
5510   \Fld@nozoomtrue
5511   \def\Fld@nozoomfalse{%
5512     \HyField@PDFAFFlagWarning{nozoom}{true}%
5513   }%
5514   \Fld@norotatetrue
```

```

5515 \def\Fld@norotatefalse{%
5516   \HyField@PDFAFldWarning{norotate}{true}%
5517 }%
5518 \Fld@noviewfalse
5519 \def\Fld@noviewtrue{%
5520   \HyField@PDFAFldWarning{noview}{false}%
5521 }%
5522 \fi

```

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

```

5523 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5524 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5525 \HyField@NewFlag{Submit}{GetMethod}{4}
5526 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5527 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5528 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5529 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5530 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5531 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5532 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5533 \HyField@NewFlag{Submit}{ExclFKey}{12}
5534 \HyField@NewFlag{Submit}{EmbedForm}{14}

5535 \define@key{Field}{export}{%
5536   \lowercase{\def\Hy@temp{#1}}%
5537   \@ifundefined{Fld@export@\Hy@temp}{%
5538     \@onelevel@sanitize\Hy@temp
5539     \Hy@Error{%
5540       Unknown export format `'\Hy@temp'.\MessageBreak
5541       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5542     }\@ehc
5543   }{%
5544     \let\Fld@export\Hy@temp
5545   }%
5546 }
5547 \def\Fld@export{fdf}
5548 \@namedef{Fld@export@fdf}{0}%
5549 \@namedef{Fld@export@html}{1}%
5550 \@namedef{Fld@export@xfdf}{2}%
5551 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5552 \def\HyField@FlagsSubmit{%
5553   \bitsetReset{HyField@Submit}%
5554   \ifcase\@nameuse{Fld@export@\Fld@export} %
5555     % FDF
5556     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5557     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5558     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5559     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5560     \HyField@UseFlag{Submit}{CanonicalFormat}%
5561     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%

```

```

5562 \HyField@UseFlag{Submit}{ExclFKey}%
5563 \HyField@UseFlag{Submit}{EmbedForm}%
5564 \or % HTML
5565 \HyField@SetFlag{Submit}{ExportFormat}%
5566 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5567 \HyField@UseFlag{Submit}{GetMethod}%
5568 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5569 \HyField@UseFlag{Submit}{CanonicalFormat}%
5570 \or % XFDF
5571 \HyField@SetFlag{Submit}{XFDF}%
5572 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5573 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5574 \HyField@UseFlag{Submit}{CanonicalFormat}%
5575 \or % PDF
5576 \HyField@SetFlag{Submit}{SubmitPDF}%
5577 \HyField@UseFlag{Submit}{GetMethod}%
5578 \fi
5579 \HyField@PrintFlags{Submit}{submit button field}%
5580 \bitsetIsEmpty{HyField@Submit}{%
5581 \let\Fld@submitflags\ltx@empty
5582 }{%
5583 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5584 }%
5585 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5586 \def\HyField@FlagsAnnot#1{%
5587 \bitsetReset{HyField@F}%
5588 \HyField@UseFlag{F}{Invisible}%
5589 \HyField@UseFlag{F}{Hidden}%
5590 \HyField@UseFlag{F}{Print}%
5591 \HyField@UseFlag{F}{NoZoom}%
5592 \HyField@UseFlag{F}{NoRotate}%
5593 \HyField@UseFlag{F}{NoView}%
5594 \HyField@UseFlag{F}{Locked}%
5595 \HyField@UseFlag{F}{ToggleNoView}%
5596 \HyField@UseFlag{F}{LockedContents}%
5597 \HyField@PrintFlags{F}{#1}%
5598 \bitsetIsEmpty{HyField@F}{%
5599 \let\Fld@annotflags\ltx@empty
5600 }{%
5601 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5602 }%
5603 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5604 \def\HyField@FlagsPushButton{%
5605 \HyField@FlagsAnnot{push button field}%
5606 \bitsetReset{HyField@Ff}%

```

```

5607 \HyField@UseFlag{Ff}{ReadOnly}%
5608 \HyField@UseFlag{Ff}{Required}%
5609 \HyField@UseFlag{Ff}{NoExport}%
5610 \HyField@SetFlag{Ff}{Pushbutton}%
5611 \HyField@PrintFlags{Ff}{push button field}%
5612 \bitsetIsEmpty{HyField@Ff}{%
5613   \let\Fld@flags\ltx@empty
5614 }{%
5615   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5616 }%
5617 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5618 \def\HyField@FlagsCheckBox{%
5619   \HyField@FlagsAnnot{check box field}%
5620   \bitsetReset{HyField@Ff}%
5621   \HyField@UseFlag{Ff}{ReadOnly}%
5622   \HyField@UseFlag{Ff}{Required}%
5623   \HyField@UseFlag{Ff}{NoExport}%
5624   \HyField@PrintFlags{Ff}{check box field}%
5625   \bitsetIsEmpty{HyField@Ff}{%
5626     \let\Fld@flags\ltx@empty
5627   }{%
5628     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5629   }%
5630 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5631 \def\HyField@FlagsRadioButton{%
5632   \HyField@FlagsAnnot{radio button field}%
5633   \bitsetReset{HyField@Ff}%
5634   \HyField@UseFlag{Ff}{ReadOnly}%
5635   \HyField@UseFlag{Ff}{Required}%
5636   \HyField@UseFlag{Ff}{NoExport}%
5637   \HyField@UseFlag{Ff}{NoToggleToOff}%
5638   \HyField@SetFlag{Ff}{Radio}%
5639   \HyField@UseFlag{Ff}{RadiosInUnison}%
5640   \HyField@PrintFlags{Ff}{radio button field}%
5641   \bitsetIsEmpty{HyField@Ff}{%
5642     \let\Fld@flags\ltx@empty
5643   }{%
5644     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5645   }%
5646 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5647 \def\HyField@FlagsText{%

```

```

5648 \HyField@FlagsAnnot{text field}%
5649 \bitsetReset{HyField@Ff}%
5650 \HyField@UseFlag{Ff}{ReadOnly}%
5651 \HyField@UseFlag{Ff}{Required}%
5652 \HyField@UseFlag{Ff}{NoExport}%
5653 \HyField@UseFlag{Ff}{Multiline}%
5654 \HyField@UseFlag{Ff}{Password}%
5655 \HyField@UseFlag{Ff}{FileSelect}%
5656 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5657 \HyField@UseFlag{Ff}{DoNotScroll}%
5658 \ifFld@comb
5659 \ifcase0\ifFld@multiline
5660 \else\ifFld@password
5661 \else\ifFld@fileselect
5662 \else 1\fi\fi\fi\relax
5663 \Hy@Error{%
5664   Field option `comb' cannot used together with\MessageBreak
5665   `multiline', `password', or `fileselect'%
5666 } \@ehc
5667 \else
5668 \HyField@UseFlag{Ff}{Comb}%
5669 \fi
5670 \fi
5671 \HyField@UseFlag{Ff}{RichText}%
5672 \HyField@PrintFlags{Ff}{text field}%
5673 \bitsetIsEmpty{HyField@Ff}{%
5674   \let\Fld@flags\ltx@empty
5675 }{%
5676   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5677 }%
5678 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5679 \def\HyField@FlagsChoice{%
5680 \HyField@FlagsAnnot{choice field}%
5681 \bitsetReset{HyField@Ff}%
5682 \HyField@UseFlag{Ff}{ReadOnly}%
5683 \HyField@UseFlag{Ff}{Required}%
5684 \HyField@UseFlag{Ff}{NoExport}%
5685 \HyField@UseFlag{Ff}{Combo}%
5686 \ifFld@combo
5687 \HyField@UseFlag{Ff}{Edit}%
5688 \fi
5689 \HyField@UseFlag{Ff}{Sort}%
5690 \HyField@UseFlag{Ff}{MultiSelect}%
5691 \ifFld@combo
5692 \ifFld@edit
5693 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5694 \fi
5695 \fi
5696 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5697 \HyField@PrintFlags{Ff}{choice field}%

```

```

5698 \bitsetIsEmpty{HyField@Ff}{%
5699 \let\Fld@flags\ltx@empty
5700 }{%
5701 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5702 }%
5703 }

```

19.2 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`.

```

5704 \def\HyField@PDFChoices#1{%
5705 \begingroup
5706 \global\let\Fld@choices\ltx@empty
5707 \let\HyTmp@optlist\ltx@empty
5708 \let\HyTmp@optitem\relax
5709 \count@=0 %
5710 \kv@parse{#1}{%
5711 \Hy@pdfstringdef\kv@key\kv@key
5712 \ifx\kv@value\relax
5713 \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5714 \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5715 \else
5716 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5717 \fi
5718 \else
5719 \Hy@pdfstringdef\kv@value\kv@value
5720 \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5721 \fi
5722 \edef\HyTmp@optlist{%
5723 \HyTmp@optlist
5724 \HyTmp@optitem{\the\count@}{\kv@key}0%
5725 }%
5726 \advance\count@ by 1 %
5727 \@gobbletwo
5728 }%
5729 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5730 \ifFld@multiselect
5731 \HyField@@@PDFChoices{DV}\Fld@default
5732 \HyField@@@PDFChoices{V}\Fld@value
5733 \else
5734 \ifx\Fld@default\relax
5735 \else
5736 \pdfstringdef\Hy@gtemp\Fld@default
5737 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5738 \fi
5739 \ifx\Fld@value\relax
5740 \else
5741 \pdfstringdef\Hy@gtemp\Fld@value
5742 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5743 \fi

```



```

5744 \fi
5745 \endgroup
5746 }

```

\HyField@@PDFChoices

```

5747 \def\HyField@@PDFChoices#1#2{%
5748 \ifx#2\relax
5749 \else
5750 \count@=0 %
5751 \def\HyTmp@optitem##1##2##3{%
5752 \def\HyTmp@key{##2}%
5753 \ifx\HyTmp@key\Hy@gtemp
5754 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5755 \HyTmp@optlist
5756 \HyTmp@optitem{##1}{##2}1%
5757 }%
5758 \let\HyTmp@found=Y%
5759 \else
5760 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5761 \HyTmp@optlist
5762 \HyTmp@optitem{##1}{##2}##3%
5763 }%
5764 \fi
5765 }%
5766 \expandafter\comma@parse\expandafter{#2}{%
5767 \pdfstringdef\Hy@gtemp\comma@entry
5768 \let\HyTmp@found=N %
5769 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5770 \HyTmp@optlist
5771 \ifx\HyTmp@found Y%
5772 \advance\count@ by 1 %
5773 \else
5774 \@onelevel@sanitize\comma@entry
5775 \PackageWarning{hyperref}{%
5776 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5777 \MessageBreak
5778 it cannot be found in the choices%
5779 }%
5780 \fi
5781 \@gobble
5782 }%
5783 \def\HyTmp@optitem##1##2##3{%
5784 \ifnum##3=1 %
5785 (##2)%
5786 \fi
5787 }%
5788 \ifcase\count@
5789 \or
5790 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5791 \else
5792 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5793 \ifx#1V%
5794 \def\HyTmp@optitem##1##2##3{%
5795 \ifnum##3=1 %

```

```

5796         \@firstofone{ ##1}%
5797         \fi
5798     }%
5799     \edef\HyTmp@Optlist{\HyTmp@Optlist}%
5800     \xdef\Fld@choices{%
5801         \Fld@choices
5802         /I\expandafter\@firstofone\HyTmp@Optlist}%
5803     }%
5804     \fi
5805     \fi
5806     \fi
5807 }

```

19.3 Forms

\HyField@SetKeys

```

5808 \def\HyField@SetKeys{%
5809     \kvsetkeys{Field}%
5810 }

5811 \newif\ifFld@checked
5812 \newif\ifFld@disabled
5813 \Fld@checkedfalse
5814 \Fld@disabledfalse
5815 \newcount\Fld@menulength
5816 \newdimen\Field@Width
5817 \newdimen\Fld@charsize
5818 \Fld@charsize=10\p@
5819 \def\Fld@maxlen{0}
5820 \def\Fld@align{0}
5821 \def\Fld@color{0 0 0 rg}
5822 \def\Fld@bcolor{1 1 1}
5823 \def\Fld@bordercolor{1 0 0}
5824 \def\Fld@bordersep{1\p@}
5825 \def\Fld@borderwidth{1}
5826 \def\Fld@borderstyle{S}
5827 \def\Fld@cbsymbol{4}
5828 \def\Fld@radiosymbol{H}
5829 \def\Fld@rotation{0}
5830 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5831 \def\endForm{\@endForm}
5832 \newif\ifForm@html
5833 \Form@htmlfalse
5834 \def\Fld@boolkey#1#2{%
5835     \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5836 }
5837 \define@key{Form}{action}{%
5838     \hyper@normalise\Hy@DefFormAction{#1}%
5839 }
5840 \def\Hy@DefFormAction{\def\Form@action}
5841 \def\enc@html{html}
5842 \define@key{Form}{encoding}{%
5843     \def\Hy@tempa{#1}%
5844     \ifx\Hy@tempa\enc@html

```

```

5845 \Form@htmltrue
5846 \def\Fld@export{html}%
5847 \else
5848 \Hy@Warning{%
5849   Form `encoding' key with \MessageBreak
5850   unknown value `#1'%
5851 }%
5852 \Form@htmlfalse
5853 \fi
5854 }
5855 \define@key{Form}{method}{%
5856 \lowercase{\def\Hy@temp{#1}}%
5857 \@ifundefined{Form@method@\Hy@temp}{%
5858 \@onelevel@sanitize\Hy@temp
5859 \Hy@Error{%
5860   Unknown method ``\Hy@temp'.\MessageBreak
5861   Known values are `post' and `get'%
5862 } \@ehc
5863 }{%
5864 \let\Form@method\Hy@temp
5865 \ifcase\@nameuse{Form@method@\Hy@temp} %
5866 \Fld@getmethodfalse
5867 \else
5868 \Fld@getmethodtrue
5869 \fi
5870 }%
5871 }
5872 \def\Form@method{
5873 \@namedef{Form@method@post}{0}
5874 \@namedef{Form@method@get}{1}

5875 \newif\ifHyField@NeedAppearances
5876 \def\HyField@NeedAppearancesfalse{%
5877 \global\let\ifHyField@NeedAppearances\iffalse
5878 }
5879 \def\HyField@NeedAppearancetrue{%
5880 \global\let\ifHyField@NeedAppearances\iftrue
5881 }
5882 \HyField@NeedAppearancetrue
5883 \define@key{Form}{NeedAppearances}[true]{%
5884 \edef\Hy@tempa{#1}%
5885 \ifx\Hy@tempa\Hy@true
5886 \HyField@NeedAppearancetrue
5887 \else
5888 \ifx\Hy@tempa\Hy@false
5889 \HyField@NeedAppearancesfalse
5890 \else
5891 \Hy@Error{%
5892   Unexpected value ``\Hy@tempa'.\MessageBreak
5893   of option `NeedAppearances' instead of\MessageBreak
5894   `true' or `false'%
5895 } \@ehc
5896 \fi
5897 \fi
5898 }

```

```

5899 \def\Field@boolkey#1#2{%
5900   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5901 }
5902 \ifHy@texht
5903   \newtoks\Field@toks
5904   \Field@toks={ }%
5905   \def\Field@addtoks#1#2{%
5906     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5907     \@processme
5908   }%
5909 \else
5910   \def\Hy@WarnHTMLFieldOption#1{%
5911     \Hy@Warning{%
5912       HTML field option `#1'\MessageBreak
5913       is ignored%
5914     }%
5915   }%
5916 \fi
5917 \def\Fld@checkequals#1=#2=#3\\{%
5918   \def\@currDisplay{#1}%
5919   \ifx\\#2\\%
5920     \def\@currValue{#1}%
5921   \else
5922     \def\@currValue{#2}%
5923   \fi
5924   \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5925 }
5926 \define@key{Field}{loc}{%
5927   \def\Fld@loc{#1}%
5928 }
5929 \define@key{Field}{checked}[true]{%
5930   \lowercase{\Field@boolkey{#1}}{checked}%
5931 }
5932 \define@key{Field}{disabled}[true]{%
5933   \lowercase{\Field@boolkey{#1}}{disabled}%
5934 }
5935 \ifHy@texht
5936   \define@key{Field}{accesskey}{%
5937     \Field@addtoks{accesskey}{#1}%
5938   }%
5939   \define@key{Field}{tabkey}{%
5940     \Field@addtoks{tabkey}{#1}%
5941   }%
5942 \else
5943   \define@key{Field}{accesskey}{%
5944     \Hy@WarnHTMLFieldOption{accesskey}%
5945   }%
5946   \define@key{Field}{tabkey}{%
5947     \Hy@WarnHTMLFieldOption{tabkey}%
5948   }%
5949 \fi
5950 \define@key{Field}{name}{%
5951   \def\Fld@name{#1}%
5952 }

```

```

5953 \let\Fld@altname\relax
5954 \define@key{Field}{altname}{%
5955   \def\Fld@altname{#1}%
5956 }
5957 \let\Fld@mappingname\relax
5958 \define@key{Field}{mappingname}{%
5959   \def\Fld@mappingname{#1}%
5960 }
5961 \define@key{Field}{width}{%
5962   \def\Fld@width{#1}%
5963   \Field@Width#1\setbox0=\hbox{m}%
5964 }
5965 \define@key{Field}{maxlen}{%
5966   \def\Fld@maxlen{#1}%
5967 }
5968 \define@key{Field}{menulength}{%
5969   \Fld@menulength=#1\relax
5970 }
5971 \define@key{Field}{height}{%
5972   \def\Fld@height{#1}%
5973 }
5974 \define@key{Field}{charsize}{%
5975   \setlength{\Fld@charsize}{#1}%
5976 }
5977 \define@key{Field}{borderwidth}{%
5978   \Hy@defaultbp\Fld@borderwidth{#1}%
5979 }
5980 \def\Hy@defaultbp#1#2{%
5981   \begingroup
5982     \afterassignment\Hy@defaultbpAux
5983     \dimen@=#2bp\relax{#1}{#2}%
5984 }
5985 \def\Hy@defaultbpAux#1\relax#2#3{%
5986   \ifx!#1!%
5987     \endgroup
5988     \def#2{#3}%
5989   \else
5990     \edef\x{\endgroup
5991       \def\noexpand#2{%
5992         \strip@pt\dimexpr\dimen@*800/803\relax
5993       }%
5994     }\x
5995   \fi
5996 }%
5997 \define@key{Field}{borderstyle}{%
5998   \let\Hy@temp\Fld@borderstyle
5999   \def\Fld@borderstyle{#1}%
6000   \Hy@Match\Fld@borderstyle}{%
6001     ~[SDBIU]$%
6002   }{%
6003     \Hy@Warning{%
6004       Invalid value `~\pdfborderstyle'\MessageBreak
6005       for option `pdfborderstyle'. Valid values:\MessageBreak
6006       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak

```

```

6007 \space\space I (Inset), U (Underline)\MessageBreak
6008 Option setting is ignored%
6009 }%
6010 \let\Fld@borderstyle\Hy@temp
6011 }%
6012 }
6013 \define@key{Field}{bordersep}{%
6014 \def\Fld@bordersep{#1}%
6015 }
6016 \define@key{Field}{default}{%
6017 \Hy@pdfstringdef\Fld@default{#1}%
6018 }
6019 \define@key{Field}{align}{%
6020 \def\Fld@align{#1}%
6021 }
6022 \define@key{Field}{value}{%
6023 \Hy@pdfstringdef\Fld@value{#1}%
6024 }
6025 \define@key{Field}{checkboxsymbol}{%
6026 \Fld@DingDef\Fld@cbsymbol{#1}%
6027 }
6028 \define@key{Field}{radiosymbol}{%
6029 \Fld@DingDef\Fld@radiosymbol{#1}%
6030 }
6031 \def\Fld@DingDef#1#2{%
6032 \let\Fld@temp\ltx@empty
6033 \Fld@@DingDef#2\ding{}\@nil
6034 \let#1\Fld@temp
6035 }
6036 \def\Fld@@DingDef#1\ding#2#3\@nil{%
6037 \expandafter\def\expandafter\Fld@temp\expandafter{%
6038 \Fld@temp
6039 #1%
6040 }%
6041 \ifx\#3\%
6042 \expandafter\@gobble
6043 \else
6044 \begingroup
6045 \lccode`0=#2\relax
6046 \lowercase{\endgroup
6047 \expandafter\def\expandafter\Fld@temp\expandafter{%
6048 \Fld@temp
6049 0%
6050 }%
6051 }%
6052 \expandafter\@firstofone
6053 \fi
6054 {%
6055 \Fld@@DingDef#3\@nil
6056 }%
6057 }
6058 \define@key{Field}{rotation}{%
6059 \def\Fld@rotation{#1}%
6060 }

```

```

6061 \define@key{Field}{backgroundcolor}{%
6062   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6063 }
6064 \define@key{Field}{bordercolor}{%
6065   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6066 }
6067 \define@key{Field}{color}{%
6068   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6069 }

6070 \let\Fld@onclick@code\ltx@empty
6071 \let\Fld@format@code\ltx@empty
6072 \let\Fld@validate@code\ltx@empty
6073 \let\Fld@calculate@code\ltx@empty
6074 \let\Fld@keystroke@code\ltx@empty
6075 \let\Fld@onfocus@code\ltx@empty
6076 \let\Fld@onblur@code\ltx@empty
6077 \let\Fld@onmousedown@code\ltx@empty
6078 \let\Fld@onmouseup@code\ltx@empty
6079 \let\Fld@onenter@code\ltx@empty
6080 \let\Fld@onexit@code\ltx@empty
6081 \def\Hy@temp#1{%
6082   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6083 }
6084 \def\Hy@@temp#1#2{%
6085   \ifHy@pdfa
6086     \define@key{Field}{#2}{%
6087       \Hy@Error{%
6088         PDF/A: Additional action `#2' is prohibited%
6089       }\@ehc
6090     }%
6091   \else
6092     \define@key{Field}{#2}{%
6093       \def#1{##1}%
6094     }%
6095   \fi
6096 }
6097 \Hy@temp{keystroke}
6098 \Hy@temp{format}
6099 \Hy@temp{validate}
6100 \Hy@temp{calculate}
6101 \Hy@temp{onfocus}
6102 \Hy@temp{onblur}
6103 \Hy@temp{onenter}
6104 \Hy@temp{onexit}

6105 \let\Fld@calculate@sortkey\ltx@empty
6106 \define@key{Field}{calculatesortkey}[1]{%
6107   \def\Fld@calculate@sortkey{#1}%
6108 }

6109 \ifHy@texht
6110   \def\Hy@temp#1{%
6111     \define@key{Field}{#1}{%
6112       \Field@addtoks{#1}{##1}%
6113     }%

```

```

6114 }%
6115 \else
6116 \def\Hy@temp#1{%
6117   \define@key{Field}{#1}{%
6118     \Hy@WarnHTMLFieldOption{#1}%
6119   }%
6120 }%
6121 \fi
6122 \Hy@temp{ondblclick}
6123 \Hy@temp{onmousedown}
6124 \Hy@temp{onmouseup}
6125 \Hy@temp{onmouseover}
6126 \Hy@temp{onmousemove}
6127 \Hy@temp{onmouseout}
6128 \Hy@temp{onkeydown}
6129 \Hy@temp{onkeyup}
6130 \Hy@temp{onselect}
6131 \Hy@temp{onchange}
6132 \Hy@temp{onkeypress}
6133 \ifHy@texht
6134   \define@key{Field}{onclick}{%
6135     \Field@addtoks{onclick}{#1}%
6136   }%
6137 \else
6138   \ifHy@pdfa
6139     \define@key{Field}{onclick}{%
6140       \Hy@Error{%
6141         PDF/A: Action `onclick' is prohibited%
6142       }\@ehc
6143     }%
6144   \else
6145     \define@key{Field}{onclick}{%
6146       \def\Fld@onclick@code{#1}%
6147     }%
6148   \fi
6149 \fi

6150 \DeclareRobustCommand\TextField{%
6151   \@ifnextchar[{\@TextField}{\@TextField[]}%
6152 }
6153 \DeclareRobustCommand\ChoiceMenu{%
6154   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6155 }
6156 \DeclareRobustCommand\CheckBox{%
6157   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6158 }
6159 \DeclareRobustCommand\PushButton{%
6160   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6161 }
6162 \DeclareRobustCommand\Gauge{%
6163   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6164 }
6165 \DeclareRobustCommand\Submit{%
6166   \@ifnextchar[{\@Submit}{\@Submit[]}%
6167 }

```



```

6168 \DeclareRobustCommand\Reset{%
6169   \@ifnextchar[{\@Reset}{\@Reset[]}%
6170 }
6171 \def\LayoutTextField#1#2{% label, field
6172   \def\Hy@temp{#1}%
6173   \ifx\Hy@temp\@empty
6174     #2%
6175   \else
6176     #1 #2%
6177   \fi
6178 }
6179 \def\LayoutChoiceField#1#2{% label, field
6180   \def\Hy@temp{#1}%
6181   \ifx\Hy@temp\@empty
6182     #2%
6183   \else
6184     #1 #2%
6185   \fi
6186 }
6187 \def\LayoutCheckField#1#2{% label, field
6188   \def\Hy@temp{#1}%
6189   \ifx\Hy@temp\@empty
6190     #2%
6191   \else
6192     #1 #2%
6193   \fi
6194 }
6195 \def\LayoutPushButtonField#1{% button
6196   #1%
6197 }
6198 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6199 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6200 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6201 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6202 \def\MakeButtonField#1{%
6203   \sbox0{%
6204     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6205   }%
6206   \@tempdima\ht0 %
6207   \advance\@tempdima by \Fld@borderwidth bp %
6208   \advance\@tempdima by \Fld@borderwidth bp %
6209   \ht0\@tempdima
6210   \@tempdima\dp0 %
6211   \advance\@tempdima by \Fld@borderwidth bp %
6212   \advance\@tempdima by \Fld@borderwidth bp %
6213   \dp0\@tempdima
6214   \box0\relax
6215 }
6216 \def\DefaultHeightofSubmit{14pt}
6217 \def\DefaultWidthofSubmit{2cm}
6218 \def\DefaultHeightofReset{14pt}
6219 \def\DefaultWidthofReset{2cm}
6220 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6221 \def\DefaultWidthofCheckBox{\normalbaselineskip}

```

```

6222 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6223 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6224 \def\DefaultHeightofText{\normalbaselineskip}
6225 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6226 \def\DefaultWidthofText{3cm}
6227 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6228 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6229 \def\DefaultOptionsofPushButton{print}
6230 \def\DefaultOptionsofCheckBox{print}
6231 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6232 \def\DefaultOptionsofListBox{print}
6233 \def\DefaultOptionsofComboBox{print,edit,sort}
6234 \def\DefaultOptionsofPopdownBox{print}
6235 \def\DefaultOptionsofRadio{print,notoggetooff}

```

20 Setup

```

6236 \ifHy@hyperfigures
6237 \Hy@Info{Hyper figures ON}%
6238 \else
6239 \Hy@Info{Hyper figures OFF}%
6240 \fi
6241 \ifHy@nesting
6242 \Hy@Info{Link nesting ON}%
6243 \else
6244 \Hy@Info{Link nesting OFF}%
6245 \fi
6246 \ifHy@hyperindex
6247 \Hy@Info{Hyper index ON}%
6248 \else
6249 \Hy@Info{Hyper index OFF}%
6250 \fi
6251 \ifHy@backref
6252 \Hy@Info{backreferencing ON}%
6253 \else
6254 \Hy@Info{backreferencing OFF}%
6255 \fi
6256 \ifHy@colorlinks
6257 \Hy@Info{Link coloring ON}%
6258 \else
6259 \Hy@Info{Link coloring OFF}%
6260 \fi
6261 \ifHy@ocgcolorlinks
6262 \Hy@Info{Link coloring with OCG ON}%
6263 \else
6264 \Hy@Info{Link coloring with OCG OFF}%
6265 \fi
6266 \ifHy@pdfa
6267 \Hy@Info{PDF/A mode ON}%
6268 \else
6269 \Hy@Info{PDF/A mode OFF}%

```

6270 \fi

21 Low-level utility macros

We need unrestricted access to the #, ~ and " characters, so make them nice macros.

```
6271 \edef\hyper@hash{\string#}  
6272 \edef\hyper@tilde{\string~}  
6273 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6274 \def\@currentHref{Doc-Start}  
6275 \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.

```
6276 \Hy@AtBeginDocument{%  
6277   \Hy@pdfstringtrue  
6278   \PDF@SetupDoc  
6279   \let\PDF@SetupDoc\@empty  
6280   \Hy@DisableOption{pdfpagescrop}%  
6281   \Hy@DisableOption{pdfpagemode}%  
6282   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
6283   \Hy@DisableOption{pdfdirection}%  
6284   \Hy@DisableOption{pdfviewarea}%  
6285   \Hy@DisableOption{pdfviewclip}%  
6286   \Hy@DisableOption{pdfprintarea}%  
6287   \Hy@DisableOption{pdfprintclip}%  
6288   \Hy@DisableOption{pdfprintsclaling}%  
6289   \Hy@DisableOption{pdfduplex}%  
6290   \Hy@DisableOption{pdfpicktraybypdfsize}%  
6291   \Hy@DisableOption{pdfprintpagerange}%  
6292   \Hy@DisableOption{pdfnumcopies}%  
6293   \Hy@DisableOption{pdfstartview}%  
6294   \Hy@DisableOption{pdfstartpage}%  
6295   \Hy@DisableOption{pdftoolbar}%  
6296   \Hy@DisableOption{pdfmenubar}%  
6297   \Hy@DisableOption{pdfwindowui}%  
6298   \Hy@DisableOption{pdfwindow}%  
6299   \Hy@DisableOption{pdfcenterwindow}%  
6300   \Hy@DisableOption{pdfdisplaydoctitle}%  
6301   \Hy@DisableOption{pdfpagelayout}%  
6302   \Hy@DisableOption{pdflang}%  
6303   \Hy@DisableOption{baseurl}%  
6304   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
6305   \Hy@pdfstringfalse  
6306 }
```

Ignore star from referencing macros: This is only needed if LaTeX doesn't define the starred variants itself.

```
6307 \@ifundefined{@kernel@ref}  
6308   {\LetLtxMacro\NoHy@OrgRef\ref  
6309   \DeclareRobustCommand*{\ref}{%  
6310     \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
6311   }  
}
```

```

6312 \LetLtxMacro\NoHy@OrgPageRef\pageref
6313 \DeclareRobustCommand*\pageref}{%
6314 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6315 }{}

```

22 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.

```

6316 \def\NoHyper{%
6317 \def\hyper@link@[#1]##2##3##4{##4\Hy@xspace@end}%
6318 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6319 \global\let\hyper@livelink\hyper@link
6320 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6321 \let\hyper@anchor\ltx@gobble
6322 \let\hyper@anchorstart\ltx@gobble
6323 \def\hyper@anchorend{\Hy@xspace@end}%
6324 \let\hyper@linkstart\ltx@gobbletwo
6325 \def\hyper@linkend{\Hy@xspace@end}%
6326 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6327 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6328 \let\Hy@backout\@gobble
6329 }
6330 \def\stop@hyper{%
6331 \def\hyper@link@[#1]##2##3##4{##4\Hy@xspace@end}%
6332 \let\Hy@backout\@gobble
6333 \let\hyper@@anchor\ltx@gobble
6334 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6335 \let\hyper@anchor\ltx@gobble
6336 \let\hyper@anchorstart\ltx@gobble
6337 \def\hyper@anchorend{\Hy@xspace@end}%
6338 \let\hyper@linkstart\ltx@gobbletwo
6339 \def\hyper@linkend{\Hy@xspace@end}%
6340 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6341 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6342 }
6343 \def\endNoHyper{%
6344 \global\let\hyper@link\hyper@livelink
6345 }
6346 \</package>

```

23 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:

```

6347 \nohyperref
6348 \RequirePackage{letltxmacro}[2008/06/13]
6349 \let\hyper@@anchor\@gobble
6350 \def\hyper@link#1#2#3{#3}%
6351 \let\hyper@anchorstart\@gobble
6352 \let\hyper@anchorend\@empty
6353 \let\hyper@linkstart\@gobbletwo
6354 \let\hyper@linkend\@empty
6355 \def\hyper@linkurl#1#2{#1}%
6356 \def\hyper@linkfile#1#2#3{#1}%
6357 \def\hyper@link@[#1]#2#3{#1}%
6358 \let\PDF@SetupDoc\@empty
6359 \let\PDF@FinishDoc\@empty
6360 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6361 \def\Acrobatmenu#1#2{\leavevmode#2}
6362 \let\pdfstringdefDisableCommands\@gobbletwo
6363 \let\textorpdfstring\@firstoftwo
6364 \let\pdfbookmark\@undefined
6365 \newcommand\pdfbookmark[3]{}{}
6366 \let\phantomsection\@empty
6367 \let\hypersetup\@gobble
6368 \let\hyperbaseurl\@gobble
6369 \newcommand*\{\href}[3]{}{#3}
6370 \let\hyperdef\@gobbletwo
6371 \let\hyperlink\@gobble
6372 \let\hypertarget\@gobble
6373 \def\hyperref{%
6374   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6375 }
6376 \long\def\@gobbleopt[#1]{}
6377 \let\hyperpage\@empty

```

Ignore star from referencing macros. This is only needed in older formats.

```

6378 \@if@t@r\fmtversion{2022-06-01}
6379 {}%
6380 {%
6381   \LetLtxMacro\NoHy@OrgRef\ref
6382   \DeclareRobustCommand*\ref{%
6383     \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6384   }
6385   \LetLtxMacro\NoHy@OrgPageRef\pageref
6386   \DeclareRobustCommand*\pageref{%
6387     \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6388   }%
6389 }
6390 \nohyperref

```

24 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}`

```

6391 \*package\
6392 \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 `\newlabel` is defined to cope with the extra arguments. change 2022-03-28: removed the code for `\contentsline`, it is no longer needed as `\contentsline` has now always four arguments.

```

6393 \if@files\
6394 \immediate\write\@auxout{%
6395 \string\providecommand\string\HyperFirstAtBeginDocument{%
6396 \string\AtBeginDocument}^^J%
6397 \string\HyperFirstAtBeginDocument{%
6398 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6399 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6400 \string\gdef\string\newlabel\string#1\string#2{%
6401 \string\newlabelxx{\string#1}\string#2}^^J%
6402 \string\gdef\string\newlabelxx%
6403 \string#1\string#2\string#3\string#4\string#5\string#6{%
6404 \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

```

6405 \string\AtEndDocument{%
6406 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6407 \string\let\string\newlabel\string\oldnewlabel^^J%
6408 \string\fi%
6409 }^^J%

```

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.

```

6410 \string\fi%
6411 }^^J%
6412 \string\global\string\let\string\hyper@last\relax^^J%
6413 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6414 }%
6415 \fi
6416 \let\HyperFirstAtBeginDocument\ltx@firstofone

```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. change 2022-03-28: removed the test for an old toc. `\contentsline` has now always four arguments.

```

6417 \ifx\hyper@last\@undefined
6418 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{\}\}\}\}%
6419 \fi
6420 }

```

25 Title strings

If options `pdftitle` and `pdfauthor` are not used, these informations for the pdf information dictionary can be extracted by the `\title` and `\author`.

```

6421 \ifHy@pdfusetitle

```

```

6422 \let\HyOrg@title\title
6423 \let\HyOrg@author\author
6424 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6425 \def\Hy@scanopttitle[#1]{%
6426   \gdef\Hy@title{#1}%
6427   \HyOrg@title[{#1}]%
6428 }%
6429 \def\Hy@scantitle#1{%
6430   \gdef\Hy@title{#1}%
6431   \HyOrg@title{#1}%
6432 }%
6433 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6434 \def\Hy@scanoptauthor[#1]{%
6435   \gdef\Hy@author{#1}%
6436   \HyOrg@author[{#1}]%
6437 }%
6438 \def\Hy@scanauthor#1{%
6439   \gdef\Hy@author{#1}%
6440   \HyOrg@author{#1}%
6441 }%

```

The case, that `\title`, or `\author` are given before `hyperref` is loaded, is much more complicate, because LaTeX initializes the macros `\@title` and `\@author` with LaTeX error and warning messages.

```

6442 \begingroup
6443   \def\process@me#1\@nil#2{%
6444     \expandafter\let\expandafter\x\csname @#2\endcsname
6445     \edef\y{\expandafter\strip@prefix\meaning\x}%
6446     \def\c##1#1##2\@nil{%
6447       \ifx\\##1\\%
6448         \else
6449           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6450             \expandafter{x}%
6451         \fi
6452       }%
6453     \expandafter\c\y\relax#1\@nil
6454   }%
6455   \expandafter\process@me\string\@latex@\@nil{title}%
6456   \expandafter\process@me\string\@latex@\@nil{author}%
6457 \endgroup
6458 \fi
6459 \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.

A possible ¹removes its argument.

```

6460 \def\Hy@UseMaketitleString#1{%

```

```

6461 \ltx@ifundefined{Hy@#1}{-}{%
6462   \begingroup
6463   \let\Hy@saved@hook\pdfstringdefPreHook
6464   \pdfstringdefDisableCommands{%
6465     \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6466     \let\newline\\%
6467     \def\and{; }%
6468     \let\thanks\@gobble%
6469   }%
6470   \expandafter\ifx\csname @pdf#1\endcsname\@empty
6471     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6472       \csname Hy@#1\endcsname\@empty
6473     }%
6474   \fi
6475   \global\let\pdfstringdefPreHook\Hy@saved@hook
6476 \endgroup
6477 }%
6478 }
6479 \def\Hy@newline@title#1{ #1}
6480 \def\Hy@newline@author#1{, #1}
6481 \def\Hy@UseMaketitleInfos{%
6482   \Hy@UseMaketitleString{title}%
6483   \Hy@UseMaketitleString{author}%
6484 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6485 \RequirePackage{atbegshi}[2007/09/09]
6486 \let\Hy@EveryPageHook\ltx@empty
6487 \let\Hy@EveryPageBoxHook\ltx@empty
6488 \let\Hy@FirstPageHook\ltx@empty
6489 \AtBeginShipout{%
6490   \Hy@EveryPageHook
6491   \ifx\Hy@EveryPageBoxHook\ltx@empty
6492   \else
6493     \setbox\AtBeginShipoutBox=\vbox{%
6494       \offinterlineskip
6495       \Hy@EveryPageBoxHook
6496       \box\AtBeginShipoutBox
6497     }%
6498   \fi
6499 }
6500 \ltx@iffileloaded{hpdfetex.def}{%
6501   \AtBeginShipout{%
6502     \Hy@FirstPageHook
6503     \global\let\Hy@FirstPageHook\ltx@empty
6504   }%
6505 }%

```



```

6506 \AtBeginShipoutFirst{%
6507   \Hy@FirstPageHook
6508 }%
6509 }
6510 \g@addto@macro\Hy@FirstPageHook{%
6511   \PDF@FinishDoc
6512   \global\let\PDF@FinishDoc\ltx@empty
6513 }

```

27.1 PDF /PageLabels

Internal macros of this module are marked with `\HyPL@`.

```

6514 \ifHy@pdfpagelabels
6515   \begingroup\expandafter\expandafter\expandafter\endgroup
6516   \expandafter\ifx\csname thepage\endcsname\relax
6517     \Hy@pdfpagelabelsfalse
6518     \Hy@WarningNoLine{%
6519       Option 'pdfpagelabels' is turned off\MessageBreak
6520       because \string\thepage\space is undefined%
6521     }%
6522     \csname fi\endcsname
6523     \csname iffalse\expandafter\endcsname
6524     \fi

```

`\thispdfpagelabel` The command `\thispdfpagelabel` allows to label a special page without the redefinition of `\thepage` for the page.

```

6525 \def\thispdfpagelabel#1{%
6526   \gdef\HyPL@thisLabel{#1}%
6527 }%
6528 \global\let\HyPL@thisLabel\relax

```

`\HyPL@Labels` The page labels are collected in `\HyPL@Labels` and set at the end of the document.

```

6529 \let\HyPL@Labels\ltx@empty

```

`\Hy@abspage` We have to know the the absolute page number and introduce a new counter for that.

```

6530 \newcount\Hy@abspage
6531 \Hy@abspage=0 %

```

For comparisons with the values of the previous page, some variables are needed:

```

6532 \def\HyPL@LastType{init}%
6533 \def\HyPL@LastNumber{0}%
6534 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the \LaTeX pendants.

```

6535 \def\HyPL@arabic{D}%
6536 \def\HyPL@Roman{R}%
6537 \def\HyPL@roman{r}%
6538 \def\HyPL@Alph{A}%
6539 \def\HyPL@alph{a}%
6540 \let\HyPL@SlidesSetPage\ltx@empty
6541 \ltx@ifclassloaded{slides}{%
6542   \def\HyPL@SlidesSetPage{%

```

```

6543 \advance\c@page\ltx@one
6544 \ifnum\value{page}>\ltx@one
6545 \protected@edef\HyPL@SlidesOptionalPage{%
6546 \Hy@SlidesFormatOptionalPage{\thepage}%
6547 }%
6548 \else
6549 \let\HyPL@SlidesOptionalPage\ltx@empty
6550 \fi
6551 \advance\c@page-\ltx@one
6552 \def\HyPL@page{%
6553 \csname the\Hy@SlidesPage\endcsname
6554 \HyPL@SlidesOptionalPage
6555 }%
6556 }%
6557 }{}%

```

\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.

```

6558 \def\HyPL@EveryPage{%
6559 \begingroup
6560 \ifx\HyPL@thisLabel\relax
6561 \let\HyPL@page\thepage
6562 \HyPL@SlidesSetPage
6563 \else
6564 \let\HyPL@page\HyPL@thisLabel
6565 \global\let\HyPL@thisLabel\relax
6566 \fi
6567 \let\HyPL@Type\relax
6568 \ifnum\c@page>0 %
6569 \ifx\HyPL@SlidesSetPage\ltx@empty
6570 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6571 \fi
6572 \fi
6573 \let\Hy@temp Y%
6574 \ifx\HyPL@Type\HyPL@LastType
6575 \else
6576 \let\Hy@temp N%
6577 \fi
6578 \ifx\HyPL@Type\relax
6579 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6580 \else
6581 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6582 \fi
6583 \ifx\HyPL@Prefix\HyPL@LastPrefix
6584 \else
6585 \let\Hy@temp N%
6586 \fi
6587 \if Y\Hy@temp
6588 \advance\c@page by -1 %
6589 \ifnum\HyPL@LastNumber=\the\c@page\relax
6590 \else
6591 \let\Hy@temp N%
6592 \fi
6593 \Hy@StepCount\c@page

```

```

6594 \fi
6595 \if N\Hy@temp
6596 \ifx\HyPL@Type\relax
6597 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6598 \else
6599 \HyPL@StorePageLabel{%
6600 \ifx\HyPL@Prefix\@empty
6601 \else
6602 /P(\HyPL@Prefix)%
6603 \fi
6604 /S/\csname HyPL\HyPL@Type\endcsname
6605 \ifnum\the\c@page=1 %
6606 \else
6607 \space/St \the\c@page
6608 \fi
6609 }%
6610 \fi
6611 \fi
6612 \xdef\HyPL@LastNumber{\the\c@page}%
6613 \global\let\HyPL@LastType\HyPL@Type
6614 \global\let\HyPL@LastPrefix\HyPL@Prefix
6615 \endgroup
6616 \Hy@GlobalStepCount\Hy@abspage
6617 }%

```

`\HyPL@CheckThePage` Macro `\HyPL@CheckThePage` calls `\HyPL@@CheckThePage` that does the job.

```

6618 \def\HyPL@CheckThePage#1\@nil{%
6619 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6620 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L^AT_EX, e.g.: `\csname @arabic\endcsname\c@page`. In the current implementation 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`.

```

6621 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6622 \def\Hy@tempa{#4}%
6623 \def\Hy@tempb{\csname\endcsname\c@page}%
6624 \ifx\Hy@tempa\Hy@tempb
6625 \expandafter\ifx\csname HyPL#3\endcsname\relax
6626 \else
6627 \def\HyPL@Type{#3}%
6628 \def\HyPL@Prefix{#2}%
6629 \fi
6630 \else
6631 \begingroup
6632 \let\Hy@next\endgroup
6633 \let\HyPL@found\@undefined
6634 \def\arabic{\HyPL@Format{arabic}}%
6635 \def\Roman{\HyPL@Format{Roman}}%
6636 \def\roman{\HyPL@Format{roman}}%
6637 \def\Alph{\HyPL@Format{Alph}}%
6638 \def\alph{\HyPL@Format{alph}}%
6639 \protected@edef\Hy@temp{#1}%

```

```

6640 \ifx\HyPL@found\relax
6641 \toks@{\expandafter{\Hy@temp}}%
6642 \edef\Hy@next{\endgroup
6643 \noexpand\HyPL@@@CheckThePage\the\toks@
6644 \noexpand\HyPL@found\relax\noexpand\@nil
6645 }%
6646 \fi
6647 \Hy@next
6648 \fi
6649 }%

```

\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`.

```

6650 \def\HyPL@Format#1#2{%
6651 \ifx\HyPL@found\@undefined
6652 \expandafter\ifx\csname c@#2\endcsname\c@page
6653 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6654 \else
6655 \expandafter\noexpand\csname#1\endcsname{#2}%
6656 \fi
6657 \else
6658 \expandafter\noexpand\csname#1\endcsname{#2}%
6659 \fi
6660 }%

```

\HyPL@@@CheckThePage If the second check method is successful, `\HyPL@@@CheckThePage` scans the result of `\HyPL@Format` and stores the found values.

```

6661 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6662 \def\Hy@tempa{#3}%
6663 \def\Hy@tempb{\HyPL@found\relax}%
6664 \ifx\Hy@tempa\Hy@tempb
6665 \def\HyPL@Type{#2}%
6666 \def\HyPL@Prefix{#1}%
6667 \fi
6668 }%

```

\HyPL@StorePageLabel Dummy for drivers that does not support `/PageLabel`.

```

6669 \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`.

```

6670 \def\HyPL@Useless{0<</S/D>>}%
6671 \@onelevel@sanitize\HyPL@Useless

```

\HyPL@SetPageLabels The page labels are written to the PDF catalog. The command `\Hy@PutCatalog` is defined in the driver files.

```

6672 \def\HyPL@SetPageLabels{%
6673 \@onelevel@sanitize\HyPL@Labels
6674 \ifx\HyPL@Labels\@empty
6675 \else
6676 \ifx\HyPL@Labels\HyPL@Useless

```

```

6677     \else
6678       \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>>}%
6679     \fi
6680   \fi
6681 }%

6682 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6683 \fi

Option ‘pdfpagelabels’ has been used and is now disabled.
6684 \Hy@DisableOption{pdfpagelabels}
6685 \end{package}

```

27.1.1 pdfTeX and VTeX

Because of pdfTeX’s `\pdfcatalog` command the `/PageLabels` entry can set at end of document in the first run.

`\Hy@PutCatalog`

```

6686 (*pdfTeX)
6687 \pdf@ifdraftmode{%
6688   \let\Hy@PutCatalog\ltx@gobble
6689 }{%
6690   \let\Hy@PutCatalog\pdfcatalog
6691 }
6692 \end{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.

```

6693 (*vTeX)
6694 \providecommand*\XR@ext}{pdf}
6695 \edef\Hy@VTeXversion{%
6696   \ifx\VTeXversion\@undefined
6697     \z@
6698   \else
6699     \ifx\VTeXversion\relax
6700       \z@
6701     \else
6702       \VTeXversion
6703     \fi
6704   \fi
6705 }
6706 \begingroup
6707   \ifnum\Hy@VTeXversion<660 %
6708     \gdef\Hy@PutCatalog#1{%
6709       \Hy@WarningNoLine{%
6710         VTeX 6.59g or above required for pdfpagelabels%
6711       }%
6712     }%
6713   \else
6714     \gdef\Hy@PutCatalog#1{%

```

```

6715 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6716 }%
6717 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6718 \ifx\#2\%
6719 \else
6720 \immediate\special{!pdfpagelabels #2}%
6721 \fi
6722 }%
6723 \fi
6724 \endgroup
6725 \</vtex>

6726 \*pdfTeX | vtex>

```

\HyPL@StorePageLabel This macro adds the entry #1 to \HyPL@Labels.

```

6727 \ifHy@pdfpagelabels
6728 \def\HyPL@StorePageLabel#1{%
6729 \toks@\expandafter{\HyPL@Labels}%
6730 \xdef\HyPL@Labels{%
6731 \the\toks@
6732 \the\Hy@abspage<<#1>>%
6733 }%
6734 }%

```

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.

```

6735 \RequirePackage{atveryend}[2009/12/07]%
6736 \AtVeryEndDocument{%
6737 \HyPL@SetPageLabels
6738 }%

6739 \fi
6740 \</pdfTeX | vtex>

```

27.1.2 xetex

```

6741 \*xetex>
6742 \HyPsd@LoadUnicode
6743 \Hy@unicodetrue
6744 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6745 \else
6746 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6747 \fi
6748 \HyPsd@LoadStringEncoding
6749 \define@key{Hyp}{unicode}[true]{%
6750 \Hy@boolkey{unicode}{#1}%
6751 \ifHy@unicode
6752 \else
6753 \Hy@Warning{%
6754 XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6755 option setting `unicode=false'%
6756 }%
6757 \Hy@unicodetrue
6758 \fi

```

```

6759 }
6760 \define@key{Hyp}{pdfencoding}{%
6761   \edef\HyPsd@temp{#1}%
6762   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6763     \let\HyPsd@pdfencoding\HyPsd@temp
6764   \else
6765     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6766       \let\HyPsd@pdfencoding\HyPsd@temp
6767     \else
6768       \Hy@Warning{%
6769         XeTeX driver only supports\MessageBreak
6770         `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6771         setting `pdfencoding=\HyPsd@temp'%
6772       }%
6773     \fi
6774   \fi
6775 }
6776 \let\HyXeTeX@CheckUnicode\relax

```

Since 2016 (x)dvipdfmx has a special to control the spacing of annotation borders.

So let's make use of it:

```

6777 \def\setpdfinkmargin#1{%
6778   \begingroup
6779   \setlength{\dimen@}{#1}%
6780   \special{dvipdfmx:config g \strip@pt\dimen@}%
6781   \endgroup}
6782 \xetex

```

set the pdf version

```

6783 (*dvipdfm | xetex)
6784 \special{pdf:majorversion \Hy@pdf@majorversion}
6785 \special{pdf:minorversion \Hy@pdf@minorversion}
6786 \dvipdfm | xetex

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6787 (*pdfmarkbase)
6788 \begingroup
6789 \@ifundefined{headerps@out}{-}{%
6790   \toks@\expandafter{\Hy@FirstPageHook}%
6791   \xdef\Hy@FirstPageHook{%
6792     \noexpand\headerps@out{%
6793       systemdict /pdfmark known%
6794       {%
6795         userdict /?pdfmark systemdict /exec get put%
6796       }{%
6797         userdict /?pdfmark systemdict /pop get put %
6798         userdict /pdfmark systemdict /cleartomark get put%
6799       }%
6800       ifelse%
6801     }%
6802     \the\toks@
6803   }%
6804 }%
6805 \endgroup
6806 \pdfmarkbase

```

\Hy@PutCatalog

```
6807 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview <<#1>>}}
6808 <*pdfmarkbase>
6809 \def\Hy@PutCatalog#1{%
6810   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6811 }
6812 </pdfmarkbase>

6813 <*pdfmarkbase | dvipdfm | xetex>
6814 \ifHy@pdfpagelabels
```

\HyPL@StorePageLabel This macro writes a string to the .aux file.

```
6815 \def\HyPL@StorePageLabel#1{%
6816   \if@filesw
6817     \begingroup
6818     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6819     \immediate\write\@mainaux{%
6820       \string\HyPL@Entry{\Hy@tempa}%
6821     }%
6822   \endgroup
6823   \fi
6824 }%
```

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.

```
6825 \Hy@AtBeginDocument{%
6826   \if@filesw
6827     \immediate\write\@mainaux{%
6828       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6829     }%
6830   \fi
6831   \ifx\HyPL@Labels\@empty
6832     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6833   \else
6834     \HyPL@SetPageLabels
6835   \fi
6836   \let\HyPL@Entry\@gobble
6837 }%
```

\HyPL@Entry

```
6838 \def\HyPL@Entry#1{%
6839   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6840     \HyPL@Labels
6841     #1%
6842   }%
6843 }%

6844 \fi
6845 </pdfmarkbase | dvipdfm | xetex>
6846 <*packageEnd>

6847 \ifx\MaybeStopEarly\relax
6848 \else
```



```

6849 \Hy@stoppedearlytrue
6850 \expandafter\MaybeStopEarly
6851 \fi
6852 \Hy@stoppedearlyfalse

```

28 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

```

6853 \def\Hy@CounterExists#1{%
6854   \begingroup\expandafter\expandafter\expandafter\endgroup
6855   \expandafter\ifx\csname c@#1\endcsname\relax
6856     \expandafter\@gobble
6857   \else
6858     \begingroup\expandafter\expandafter\expandafter\endgroup
6859     \expandafter\ifx\csname the#1\endcsname\relax
6860       \expandafter\expandafter\expandafter\@gobble
6861     \else
6862       \expandafter\expandafter\expandafter\@firstofone
6863     \fi
6864   \fi
6865 }
6866 \Hy@CounterExists{section}{%
6867   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6868 }
6869 \providecommand\theHequation{\arabic{equation}}}%
6870 \Hy@CounterExists{part}{%
6871   \providecommand\theHpart{\arabic{part}}}%
6872 }
6873 \ltx@ifundefined{thechapter}{%
6874   \providecommand\theHsection   {\arabic{section}}}%
6875   \providecommand\theHfigure    {\arabic{figure}}}%
6876   \providecommand\theHtable     {\arabic{table}}}%
6877 }{%
6878   \providecommand\theHchapter   {\arabic{chapter}}}%

```

```

6879 \providecommand\theHfigure    {\theHchapter.\arabic{figure}}%
6880 \providecommand\theHtable     {\theHchapter.\arabic{table}}%
6881 \providecommand\theHsection    {\theHchapter.\arabic{section}}%
6882 }
6883 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6884 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6885 \providecommand\theHparagraph  {\theHsubsubsection.\arabic{paragraph}}
6886 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6887 \providecommand\theHtheorem    {\theHsection.\arabic{theorem}}
6888 \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.

```

6889 \let\H@item\item
6890 \newcounter{Item}
6891 \def\theHItem{\arabic{Item}}
6892 \def\item{%
6893   \@hyper@itemfalse
6894   \if@nmbrrlist\@hyper@itemtrue\fi
6895   \H@item
6896 }
6897 \providecommand\theHenumi      {\theHItem}
6898 \providecommand\theHenumii     {\theHItem}
6899 \providecommand\theHenumiii    {\theHItem}
6900 \providecommand\theHenumiv     {\theHItem}
6901 \providecommand\theHHfootnote  {\arabic{Hfootnote}}
6902 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6903 \@ifundefined{theHHmpfootnote}{%
6904   \let\theHHmpfootnote\theHHfootnote
6905 }{}

```

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.

```

6906 \let\H@refstepcounter\refstepcounter
6907 \edef\name@of@eq{equation}%

```

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. change 2022-04-22: removed test for the slide counter and for the equation name. change 2022-05-02: added the new boolean set by `\LinkTargetOn/\LinkTargetOff`

```

6908 \newif\if@hyper@item
6909 \newif\if@skiphyperref
6910 \@hyper@itemfalse
6911 \@skiphyperreffalse
6912 \ExplSyntaxOn
6913 \def\refstepcounter#1{%
6914   \legacy_if:nF {Hy@pdfstring}
6915   {
6916     \H@refstepcounter{#1}%
6917     \bool_lazy_and:nnT
6918       { \l__hyp_target_create_bool }

```

```

6919 { ! \legacy_if_p:n{@skiphyperref} }
6920 {
6921   \legacy_if:nTF {@hyper@item}
6922   {
6923     \stepcounter{Item}%
6924     \hyper@refstepcounter{Item}%
6925     \@hyper@itemfalse
6926   }
6927   {
6928     \hyper@refstepcounter{#1}%
6929   }
6930 }
6931 }
6932 }
6933 \ExplSyntaxOff
6934 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS \LaTeX 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.

```

6935 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6936 \def\hyper@refstepcounter#1{%
6937   \HyCnt@ProvideTheHCounter{#1}%
6938   \hyper@makecurrent{#1}%
6939   \ifmeasuring@
6940   \else
6941     \Hy@raisedlink{%
6942       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6943     }%
6944   \fi
6945 }

```

`\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`, \LaTeX 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 \LaTeX , substring search `\in@` can be used.

```

6946 \def\HyCnt@ProvideTheHCounter#1{%
6947   \@ifundefined{theH#1}{%
6948     \expandafter\def\csname theH#1\endcsname{}%
6949     \def\Hy@temp{\@elt{#1}}%
6950     \ltx@onelevel@sanitize\Hy@temp
6951     \let\HyOrg@elt\@elt
6952     \edef\@elt{%
6953       \noexpand\HyCnt@LookForParentCounter
6954       \expandafter\noexpand\csname theH#1\endcsname
6955     }%
6956     \cl@ckpt
6957     \let\@elt\HyOrg@elt

```

```

6958 \expandafter
6959 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
6960 \expandafter{%
6961 \expandafter\@arabic\csname c@#1\endcsname
6962 }%
6963 }{}%
6964 }

```

\Hy@LookForParentCounter

```

6965 \def\HyCnt@LookForParentCounter#1#2{%
6966 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6967 \ltx@ifundefined{cl@#2}{%
6968 }{%
6969 \ltx@onelevel@sanitize\Hy@temp@A
6970 \edef\Hy@temp@A{%
6971 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6972 }\Hy@temp@A
6973 \ifn@
6974 \ltx@ifundefined{theH#2}{%
6975 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6976 \expandafter{%
6977 \expandafter\@arabic\csname c@#2\endcsname.%
6978 }%
6979 }{%
6980 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6981 \expandafter{%
6982 \csname theH#2\endcsname.%
6983 }%
6984 }%
6985 \fi
6986 }%
6987 }

```

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.

```

6988 \begingroup\expandafter\expandafter\expandafter\endgroup
6989 \expandafter\ifx\csname chapter\endcsname\relax
6990 \def\Hy@chapterstring{section}%
6991 \else
6992 \def\Hy@chapterstring{chapter}%
6993 \fi
6994 \def\Hy@appendixstring{appendix}
6995 \def\Hy@chapapp{\Hy@chapterstring}
6996 \ltx@ifundefined{appendix}{%
6997 }{%
6998 \let\HyOrg@appendix\appendix
6999 \def\Hy@AlphNoErr#1{%
7000 \ifnum\value{#1}>26 %
7001 Alph\number\value{#1}%
7002 \else

```

```

7003 \ifnum\value{#1}<1 %
7004   Alph\number\value{#1}%
7005 \else
7006   \Alph{#1}%
7007 \fi
7008 \fi
7009 }%
7010 \def\appendix{%
7011   \ltx@ifundefined{chapter}{%
7012     \gdef\theHsection{\Hy@AlphNoErr{section}}%
7013   }{%
7014     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7015   }%
7016   \xdef\Hy@chapapp{\Hy@appendixstring}%
7017   \HyOrg@appendix
7018 }%
7019 }

```

\Hy@Test@Alph

```

7020 \def\Hy@Test@Alph#1{%
7021   \ifcase#1\or
7022     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7023     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7024     u\or v\or w\or x\or y\or z%
7025   \else
7026     \@ctrerr
7027   \fi
7028 }

```

\Hy@Test@Alph

```

7029 \def\Hy@Test@Alph#1{%
7030   \ifcase#1\or
7031     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7032     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7033     U\or V\or W\or X\or Y\or Z%
7034   \else
7035     \@ctrerr
7036   \fi
7037 }

```

We define a hook to allow to overwrite the next destination name.

```

7038 \NewHook{__hyp/target/setname }
7039 \define@key{Hyp}{next-anchor}{%
7040   \AddToHookNext{__hyp/target/setname}%
7041   {\Hy@MakeCurrentHref{#1}}%
7042 }

```

\hyper@makecurrent Because of Babel mucking around, nullify \textlatin when making names. And \@number because of babel's lrbabel.def. change 2021-08-15: For new formats we add a hook which allows to overwrite the name of the next destination.

```

7043 \def\hyper@makecurrent#1{%
7044   \begingroup
7045   \Hy@safe@activetrue

```

```

7046 \edef\Hy@param{#1}%
7047 \ifx\Hy@param\Hy@chapterstring
7048 \let\Hy@param\Hy@chapapp
7049 \fi
7050 \ifHy@hypertextnames
7051 \let\@number\@firstofone
7052 \def\@fnsymbol##1{\fnsymbol\number##1}%
7053 \def\@arabic##1{\number##1}%
7054 \ifx\@alph\Hy@Test@alph
7055 \else
7056 \def\@alph{alph\number}%
7057 \fi
7058 \ifx\@Alph\Hy@Test@Alph
7059 \else
7060 \def\@Alph{Alph\number}%
7061 \fi
7062 \ifHy@naturalnames
7063 \let\textlatin\@firstofone
7064 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7065 \else
7066 \xdef\HyperGlobalCurrentHref{%
7067 \csname
7068 the%
7069 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7070 #1%
7071 \endcsname
7072 }%
7073 \fi
7074 \xdef\HyperGlobalCurrentHref{%
7075 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7076 }%
7077 \else
7078 \Hy@GlobalStepCount\Hy@linkcounter
7079 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7080 \fi
7081 \endgroup
7082 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7083 \ifHy@localanchorname
7084 \let\@currentHref\HyperLocalCurrentHref
7085 \else
7086 \global\let\@currentHref\HyperGlobalCurrentHref
7087 \fi
7088 \UseHook{__hyp/target/setname}%
7089 }

```

\Hy@MakeCurrentHref

```

7090 \def\Hy@MakeCurrentHref#1{%
7091 \edef\HyperLocalCurrentHref{#1}%
7092 \@onelevel@sanitize\HyperLocalCurrentHref
7093 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7094 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7095 \ifHy@localanchorname
7096 \let\@currentHref\HyperLocalCurrentHref
7097 \else

```

```

7098 \global\let\@currentHref\HyperGlobalCurrentHref
7099 \fi
7100 }

```

`\Hy@MakeCurrentHrefAuto` This command is e.g. used to create destinations for unnumbered sections and chapters. For new formats we add a hook which allows to overwrite the name of the next destination.

```

7101 \def\Hy@MakeCurrentHrefAuto#1{%
7102 \Hy@GlobalStepCount\Hy@linkcounter
7103 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7104 \UseHook{__hyp/target/setname}}

```

`\@currentHlabel` `\@currentHlabel` is only defined for compatibility with package ‘hypdvips’.

```

7105 \def\@currentHlabel{\@currentHref}

```

29 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.

```

7106 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7107 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

30 Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: jbezos@arrakis.es).

Package titlesec support:

```

7108 \@ifpackageloaded{titlesec}{%
7109 \def\ttl@Hy@steplink#1{%
7110 \Hy@MakeCurrentHrefAuto{#1*}%
7111 \edef\ttl@Hy@saveanchor{%
7112 \noexpand\Hy@raisedlink{%
7113 \noexpand\hyper@anchorstart{\@currentHref}%
7114 \noexpand\hyper@anchorend
7115 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7116 \noexpand\ttl@Hy@PatchSaveWrite
7117 }%
7118 }%
7119 }%
7120 \def\ttl@Hy@PatchSaveWrite{%
7121 \begingroup
7122 \toks@\expandafter{\ttl@savewrite}%
7123 \edef\x{\endgroup
7124 \def\noexpand\ttl@savewrite{%
7125 \let\noexpand\@currentHref
7126 \noexpand\ttl@Hy@SavedCurrentHref
7127 \the\toks@
7128 }%
7129 }%
7130 \x
7131 }%

```

```

7132 \def\ttl@Hy@refstepcounter#1{%
7133   \let\ttl@b\Hy@raisedlink
7134   \def\Hy@raisedlink##1{%
7135     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7136   }%
7137   \refstepcounter{#1}%
7138   \let\Hy@raisedlink\ttl@b
7139 }%
7140 }{}

```

31 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net). This fix will no longer be needed with latex 2021-11-15.

```

7141 \@if@t@r\fmtversion{2021-11-15}
7142 {}%
7143 {
7144   \AtBeginDocument{%
7145     \def\Hy@varioref@undefined{???}{??}{-}{-}}
7146   \@ifpackageloaded{varioref}{%
7147     \def\vref@pagenum#1#2{%
7148       \@ifundefined{r@#2}{%
7149         \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7150       }{}%
7151       \edef#1{\getpagerefnumber{#2}}%
7152     }%
7153   }{}
7154 }
7155 }

```

32 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

```

7156 \@ifpackageloaded{longtable}{%
7157   \@ifundefined{hyper@nopatch@longtable}{%
7158     \begingroup
7159     \def\y{\LT@array}%
7160     \@ifundefined{scr@LT@array}{%
7161       \@ifundefined{adl@LT@array}{-}{\def\y{adl@LT@array}}%
7162     }{\def\y{scr@LT@array}}%
7163     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7164       \expandafter\endgroup
7165       \expandafter\def\y[##1]##2{%
7166         \H@refstepcounter{#1}%
7167         \hyper@makecurrent{table}%
7168         \let\Hy@LT@currentHref\@currentHref

```



```

7169      #2\@sharp####4%
7170    }%
7171  }%
7172  \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7173  \begingroup
7174  \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7175    \endgroup
7176    \def\LT@start{%
7177      #1%
7178      \ifvoid\LT@foot#2\fi
7179      \let\@currentHref\Hy@LT@currentHref
7180      \Hy@raisedlink{%
7181        \hyper@anchorstart{\@currentHref}\hyper@anchorend
7182      }%
7183      #3%
7184    }%
7185  }%
7186  \expandafter\x\LT@start\@nil
7187 }{}
7188 }{}

```

33 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 40). 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. This and more math related patches can be suppressed with `\hyper@nopatch@mathenv`

```

7189 \let\new@refstepcounter\refstepcounter
7190 \let\H@equation\equation
7191 \let\H@endequation\endequation
7192 \@ifundefined{hyper@nopatch@mathenv}{%
7193   \@ifpackageloaded{amsmath}{%
7194     \long\def\Hy@temp{%
7195       \incr@eqnum
7196       \mathdisplay@push
7197       \st@rredfalse \global\@eqnswtrue
7198       \mathdisplay{equation}%
7199     }%
7200     \ifx\Hy@temp\equation
7201       \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7202         \csname iftrue\endcsname
7203     \else
7204       \long\def\equation{%
7205         \mathdisplay@push
7206         \st@rredfalse \global\@eqnswtrue
7207         \mathdisplay{equation}%
7208         \incr@eqnum

```

```

7209     }%
7210     \fi
7211     \fi
7212 }{%
7213   \def\equation{%
7214     \let\refstepcounter\H@refstepcounter
7215     \H@equation
7216     \hyper@makecurrent{equation}%

```

`\mathopen` is needed in case the equation starts with an unary minus, for example.

```

7217     \mathopen{%
7218       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7219     }%
7220     \let\refstepcounter\new@refstepcounter
7221   }%
7222   \def\endequation{%
7223     \ifx\Hy@raisedlink\ltx@empty
7224       \hyper@anchorend
7225     \else
7226       \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7227     \fi
7228     \H@endequation
7229   }%
7230 }
7231 }{}

```

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.

```

7232 \newif\if@eqnstar
7233 \@eqnstarfalse
7234 \let\H@eqnarray\eqnarray
7235 \let\H@endeqnarray\endeqnarray
7236 \@ifundefined{hyper@nopatch@mathenv}{%
7237   \def\eqnarray{%
7238     \let\Hy@reserved@a\relax
7239     \def\@currentHref{}%
7240     \H@eqnarray
7241     \if@eqnstar
7242     \else
7243       \ifx\\\@currentHref\%
7244     \else
7245       \hyper@makecurrent{equation}%
7246       \mathopen{%
7247         \Hy@raisedlink{%
7248           \hyper@anchorstart{\@currentHref}\hyper@anchorend
7249         }%
7250       }%
7251     \fi
7252     \fi
7253   }
7254   \def\endeqnarray{%

```

```

7255 \H@endeqnarray
7256 }
7257 }{}

```

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.

```

7258 \@namedef{eqnarray*}{%
7259 \protected\def\@eqnacr{\nonumber\@seqnacr}\@eqnstartrue\eqnarray
7260 }
7261 \@namedef{endeqnarray*}{%
7262 \nonumber\endeqnarray\@eqnstarfalse
7263 }

```

Then again, we have the *subeqnarray* package. Tanmoy provided some code for this:

```

7264 \ltx@ifundefined{subeqnarray}{}{}%
7265 \let\H@subeqnarray\subeqnarray
7266 \let\H@endsubeqnarray\endsubeqnarray
7267 \def\subeqnarray{%
7268 \let\Hy@reserved@a\relax
7269 \H@subeqnarray
7270 \hyper@makecurrent{equation}%
7271 \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7272 }%
7273 \def\endsubeqnarray{%
7274 \H@endsubeqnarray
7275 }%
7276 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7277 }

```

The aim of this macro is to produce a sanitized version of its argument, to make it a safe label.

```

7278 \def\make@stripped@name#1{%
7279 \begingroup
7280 \escapechar\m@ne
7281 \global\let\newname\@empty
7282 \protected@edef\Hy@tempa{#1}%
7283 \edef\@tempb{%
7284 \noexpand\@tfor\noexpand\Hy@tempa:=%
7285 \expandafter\strip@prefix\meaning\Hy@tempa
7286 }%
7287 \@tempb\do{%
7288 \if\Hy@tempa\else
7289 \if\Hy@tempa\else
7290 \xdef\newname{\newname\Hy@tempa}%
7291 \fi
7292 \fi
7293 }%
7294 \endgroup
7295 }

```

Support for amsmath's subequations:

```

7296 \ifcsname subequations\endcsname
7297 \let\HyOrg@subequations\subequations

```

```

7298 \def\subequations{%
7299   \stepcounter{equation}%
7300   \protected@edef\theHparentequation{\theHequation}%
7301   \addtocounter{equation}{-1}%
7302   \HyOrg@subequations
7303   \def\theHequation{\theHparentequation\alph{equation}}%
7304   \ignorespaces
7305 }%
7306 \fi

```

Support for theorems. We move the target into the para hook to avoid spacing problem. The patch will not apply to `cleveref` but hopefully it does the right thing anyway. `\@currentHref` is updated directly for labels set before the actual start of the paragraph. The target can be behind a target created from a following list, so we restore `\@currentHref` just in case

```

7307 \newcommand\Hy@theorem@refstepcounter[1]
7308 {%
7309   \H@refstepcounter{#1}%
7310   \hyper@makecurrent{#1}%
7311   \global\let\Hy@dth@currentHref\@currentHref
7312   \AddToHookNext{para/begin}
7313     {\let\Hy@tempa\@currentHref
7314      \MakeLinkTarget*\Hy@dth@currentHref}%
7315     \global\let\@currentHref\Hy@tempa
7316   }%
7317 }
7318 \@ifundefined{hyper@nopatch@thm}{%
7319 \AtBeginDocument{%
7320 \@ifpackageloaded{cleveref}
7321   {\AddToHook{cmd/@thm/before}{\ifhmode\unskip\fi}}
7322   {%
7323     \ifpatchable\@thm{refstepcounter}
7324       {\patchcmd\@thm{refstepcounter}{\Hy@theorem@refstepcounter}{-}{}}
7325     {}%
7326   }}{}

```

34 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. If `\hyper@nopatch@footnote` is defined we don't patch but assume that additions links to footnotes is handled elsewhere.

```

7327 \@ifundefined{hyper@nopatch@footnote}{%
7328 \ifHy@hyperfootnotes
7329   \newcounter{Hfootnote}%
7330   \let\H@@footnotetext\@footnotetext
7331   \let\H@@footnotemark\@footnotemark
7332   \def\@xfootnotenext[#1]{%
7333     \begingroup
7334     \csname c@\@mpfn\endcsname #1\relax

```

```

7335 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7336 \endgroup
7337 \ifx\@footnotetext\@mpfootnotetext
7338 \expandafter\H@@mpfootnotetext
7339 \else
7340 \expandafter\H@@footnotetext
7341 \fi
7342 }%
7343 \def\@xfootnotemark[#1]{%
7344 \begingroup
7345 \c@footnote #1\relax
7346 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7347 \endgroup
7348 \H@@footnotemark
7349 }%
7350 \let\H@@mpfootnotetext\@mpfootnotetext
7351 \long\def\@mpfootnotetext#1{%
7352 \H@@mpfootnotetext{%
7353 \ifHy@nesting
7354 \expandafter\ltx@firstoftwo
7355 \else
7356 \expandafter\ltx@secondoftwo
7357 \fi
7358 {%
7359 \expandafter\hyper@@anchor\expandafter{%
7360 \Hy@footnote@currentHref
7361 }{\ignorespaces #1}%
7362 }{%
7363 \Hy@raisedlink{%
7364 \expandafter\hyper@@anchor\expandafter{%
7365 \Hy@footnote@currentHref
7366 }{\relax}%
7367 }\ignorespaces #1%
7368 }%
7369 }%
7370 }%
7371 \long\def\@footnotetext#1{%
7372 \H@@footnotetext{%
7373 \ifHy@nesting
7374 \expandafter\ltx@firstoftwo
7375 \else
7376 \expandafter\ltx@secondoftwo
7377 \fi
7378 {%
7379 \expandafter\hyper@@anchor\expandafter{%
7380 \Hy@footnote@currentHref
7381 }{\ignorespaces #1}%
7382 }{%
7383 \Hy@raisedlink{%
7384 \expandafter\hyper@@anchor\expandafter{%
7385 \Hy@footnote@currentHref
7386 }{\relax}%
7387 }%
7388 \let\@currentHref\Hy@footnote@currentHref

```

```

7389     \let\@currentlabelname\@empty
7390     \ignorespaces #1%
7391   }%
7392 }%
7393 }%

```

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.

```

7394 \def\@footnotemark{%
7395   \leavevmode
7396   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7397   \stepcounter{Hfootnote}%
7398   \global\let\Hy@saved@currentHref\@currentHref
7399   \hyper@makecurrent{Hfootnote}%
7400   \global\let\Hy@footnote@currentHref\@currentHref
7401   \global\let\@currentHref\Hy@saved@currentHref
7402   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7403   \@makefnmark
7404   \hyper@linkend
7405   \ifhmode\spacefactor\@x@sf\fi
7406   \relax
7407 }%

```

Tabularx causes footnote problems, disable the linking if that is loaded. Since v6.82i footnotes are only disabled inside the environment ‘`tabularx`’.

```

7408 \ifpackageloaded{tabularx}{%
7409   \let\HyOrg@TX@endtabularx\TX@endtabularx
7410   \def\Hy@tabularx@hook{%
7411     \let\@footnotetext\H@@footnotetext
7412     \let\@footnotemark\H@@footnotemark
7413     \let\@mpfootnotetext\H@@mpfootnotetext
7414   }%
7415   \begingroup
7416     \toks@\expandafter{\TX@endtabularx}%
7417     \xdef\Hy@gtemp{%
7418       \noexpand\Hy@tabularx@hook
7419       \the\toks@
7420     }%
7421   \endgroup
7422   \let\TX@endtabularx\Hy@gtemp
7423 }{}%

```

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

```

7424 \ifpackageloaded{longtable}{%
7425   \CheckCommand{\LT@p@ftntext}[1]{%
7426     \edef\@tempa{%
7427       \the\LT@p@ftn
7428       \noexpand\footnotetext[\the\c@footnote]%
7429     }%

```

```

7430 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7431 }%
7432 \long\def\LT@p@ftntext#1{%
7433 \edef\@tempa{%
7434 \the\LT@p@ftn
7435 \begingroup
7436 \noexpand\c@footnote=\the\c@footnote\relax
7437 \noexpand\protected@xdef\noexpand\@thefnmark{%
7438 \noexpand\thempfn
7439 }%
7440 \noexpand\Hy@LT@footnotetext{%
7441 \Hy@footnote@currentHref
7442 }%
7443 }%
7444 \global\LT@p@ftn\expandafter{%
7445 \@tempa{#1}%
7446 \endgroup
7447 }%
7448 }%
7449 \long\def\Hy@LT@footnotetext#1#2{%
7450 \H@@@footnotetext{%
7451 \ifHy@nesting
7452 \hyper@@anchor{#1}{#2}%
7453 \else
7454 \Hy@raisedlink{%
7455 \hyper@@anchor{#1}{\relax}%
7456 }%
7457 \def\@currentHref{#1}%
7458 \let\@currentlabelname\@empty
7459 #2%
7460 \fi
7461 }%
7462 }%
7463 }{}%

```

Footnotes for fancyvrb (Fix by Manuel Pégourié-Gonnard).

```

7464 \@ifpackageloaded{fancyvrb}{%
7465 \def\V@@@footnotetext{%
7466 \insert\footins\bgroup
7467 \csname reset@font\endcsname
7468 \footnotesize
7469 \interlinepenalty\interfootnotelinepenalty
7470 \splittopskip\footnotesep
7471 \splitmaxdepth\dp\strutbox
7472 \floatingpenalty \@MM
7473 \hsize\columnwidth
7474 \@parboxrestore
7475 \def\@currentcounter{footnote}%
7476 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7477 \@makefnmark}%
7478 \rule{\z@}{\footnotesep}%
7479 \bgroup
7480 \aftergroup\V@@@footnotetext
7481 \Hy@raisedlink{%

```

```

7482     \expandafter\hyper@@anchor\expandafter{%
7483       \Hy@footnote@currentHref
7484     }\relax}%
7485   }%
7486   \let\@currentHref\Hy@footnote@currentHref
7487   \let\@currentlabelname\@empty
7488   \ignorespaces
7489 }%
7490 }{}%

```

KOMA-Script or newer LaTeX defines `\footref` that uses both `\ref` and `\@footnotemark` resulting in two links, one of them wrong.

```

7491 \def\Hy@temp#1{%
7492   \begingroup
7493   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7494   \endgroup
7495   \@footnotemark
7496 }%
7497 \ifx\Hy@temp\footref
7498   \def\footref#1{%
7499     \begingroup
7500     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7501     \endgroup
7502     \H@@@footnotemark
7503   }%
7504   \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.

```

7505 \let\HyOrg@maketitle\maketitle
7506 \def\maketitle{%
7507   \let\Hy@saved@footnotemark\@footnotemark
7508   \let\Hy@saved@footnotetext\@footnotetext
7509   \let\@footnotemark\H@@@footnotemark
7510   \let\@footnotetext\H@@@footnotetext
7511   \@ifnextchar[\Hy@maketitle@optarg{% ]
7512     \HyOrg@maketitle
7513     \Hy@maketitle@end
7514   }%
7515 }%
7516 \def\Hy@maketitle@optarg[#1]{%
7517   \HyOrg@maketitle[{#1}]%
7518   \Hy@maketitle@end
7519 }%
7520 \def\Hy@maketitle@end{%
7521   \ifx\@footnotemark\H@@@footnotemark
7522     \let\@footnotemark\Hy@saved@footnotemark
7523   \fi
7524   \ifx\@footnotetext\H@@@footnotetext
7525     \let\@footnotetext\Hy@saved@footnotetext
7526   \fi
7527 }%

```

`\realfootnote` Does anyone remember the function and purpose of `\realfootnote`?


```

7528 \def\realfootnote{%
7529   \@ifnextchar[\@xfootnote%
7530   {\stepcounter{\@mpfn}%
7531     \protected@xdef\@thefnmark{\thempfn}%
7532     \H@@footnotemark\H@@footnotetext
7533   }%
7534 }%

7535 \fi
7536 }{}
7537 \Hy@DisableOption{hyperfootnotes}

7538 \</packageEnd>
7539 \*check>
7540 \checklatex
7541 \checkcommand\def\@xfootnotenext[#1]{%
7542   \begingroup
7543     \csname c@\@mpfn\endcsname #1\relax
7544     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7545   \endgroup
7546   \@footnotetext
7547 }
7548 \checkcommand\def\@xfootnotemark[#1]{%
7549   \begingroup
7550     \c@footnote #1\relax
7551     \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7552   \endgroup
7553   \@footnotemark
7554 }
7555 \checkcommand\def\@footnotemark{%
7556   \leavevmode
7557   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7558   \@makefnmark
7559   \ifhmode\spacefactor\x@sf\fi
7560   \relax
7561 }
7562 \</check>
7563 \*packageEnd>

```

35 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.

```

7564 \@ifundefined{hyper@nopatch@caption}{%
7565 \def\caption{%
7566   \ifx\@cuptype\@undefined
7567     \@latex@error{\noexpand\caption outside float}\@ehd
7568     \expandafter\@gobble
7569   \else
7570     \H@refstepcounter\@cuptype
7571     \let\Hy@tempa\@caption
7572     \@ifundefined{float@caption}{%
7573       }{%
7574         \expandafter\ifx\csname @float@c@\@cuptype\endcsname

```

```

7575         \float@caption
7576     \let\Hy@tempa\Hy@float@caption
7577     \fi
7578 }%
7579 \expandafter\@firstofone
7580 \fi
7581 {\@dblarg{\Hy@tempa\@captype}}%
7582 }
7583 \long\def\@caption#1[#2]#3{%
7584 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7585     \csname iftrue\endcsname
7586     \global\let\@currentHref\hc@currentHref
7587 \else
7588     \hyper@makecurrent{\@captype}%
7589 \fi
7590 \@ifundefined{NR@getttitle}{%
7591     \def\@currentlabelname{#2}%
7592 }{%
7593     \NR@getttitle{#2}%
7594 }%
7595 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7596     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7597 }%
7598 \begingroup
7599 \parboxrestore
7600 \if@minipage
7601     \setminipage
7602 \fi
7603 \normalsize
7604 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7605     \csname iftrue\endcsname
7606     \global\@capstartfalse
7607     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7608 \else
7609     \@makecaption{\csname fnum@#1\endcsname}{%
7610         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7611     \ifHy@nesting
7612         \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7613     \else
7614         \Hy@raisedlink{%
7615             \expandafter\hyper@@anchor\expandafter{%
7616                 \@currentHref
7617             }\relax}%
7618         }%
7619         #3%
7620     \fi
7621 }%
7622 \fi
7623 \par
7624 \endgroup
7625 }}}%end no patch

```

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’.

```

7626 \let\Hy@float@caption\@caption
7627 \newcommand{\HyNew@float@makebox}[1]{%
7628   \HyOrg@float@makebox{%
7629     #1\relax
7630     \ifx\Hy@float@currentHref\@undefined
7631       \else
7632         \expandafter\hyper@@anchor\expandafter{%
7633           \Hy@float@currentHref
7634         }\relax}%
7635     \global\let\Hy@float@currentHref\@undefined
7636   \fi
7637 }%
7638 }%
7639 \@ifpackageloaded{float}{%
7640   \def\Hy@float@caption{%
7641     \ifx\Hy@float@currentHref\@undefined
7642       \hyper@makecurrent{\@captive}%
7643       \global\let\Hy@float@currentHref\@currentHref
7644     \else
7645       \let\@currentHref\Hy@float@currentHref
7646     \fi
7647     \float@caption
7648   }%
7649   \let\HyOrg@float@makebox\float@makebox
7650   \let\float@makebox\HyNew@float@makebox
7651 }{}

7652 \endpackage
7653 \ifcheck
7654 \checklatex[1999/06/01 - 2000/06/01]
7655 \checkcommand\def\caption{%
7656   \ifx\@captive\@undefined
7657     \@latex@error{\noexpand\caption outside float}\@ehd
7658     \expandafter\@gobble
7659   \else
7660     \refstepcounter\@captive
7661     \expandafter\@firstofone
7662   \fi
7663   {\@dblarg{\@caption\@captive}}%
7664 }
7665 \checkcommand\long\def\@caption#1[#2]#3{%
7666   \par
7667   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7668     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7669   }%
7670   \begingroup
7671     \@parboxrestore
7672     \if@minipage
7673       \setminipage
7674     \fi

```

```

7675 \normalsize
7676 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7677 \endgroup
7678 }
7679 </check>
7680 <*packageEnd>

```

36 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, lets 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.

```

7681 \def\hyper@natlinkstart#1{%
7682   \Hy@backout{#1}%
7683   \hyper@linkstart{cite}{cite.#1}%
7684   \def\hyper@nat@current{#1}%
7685 }
7686 \def\hyper@natlinkend{%
7687   \hyper@linkend
7688 }
7689 \def\hyper@natlinkbreak#1#2{%
7690   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7691 }
7692 \def\hyper@natanchorstart#1{%
7693   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7694 }
7695 \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.

```

7696 \ltx@ifundefined{NAT@parse}{%
7697   \providecommand*\@extra@binfo{}%
7698   \providecommand*\@extra@b@citeb{}%
7699   \def\bibcite#1#2{%
7700     \@newl@bel{b}{#1\@extra@binfo}{%
7701       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7702     }%
7703   }%
7704   \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.”.

```

7705 \let\Hy@bibcite\bibcite
7706 \begingroup
7707   \@ifundefined{bbl@cite@choice}{}{%
7708     \g@addto@macro\bbl@cite@choice{%

```

```

7709     \let\bibcite\Hy@bibcite
7710     }%
7711     }%
7712 \endgroup
\@BIBLABEL is working around a 'feature' of RevTeX.
7713 \providecommand*\@BIBLABEL*\@biblabel}%
7714 \def\@bibitem[#1]#2{%
7715     \@skiphyperreftrue
7716     \H@item{%
7717         \ifx\Hy@raisedlink\@empty
7718             \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7719             \@BIBLABEL{#1}%
7720             \hyper@anchorend
7721         \else
7722             \Hy@raisedlink{%
7723                 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7724             }%
7725             \@BIBLABEL{#1}%
7726         \fi
7727         \hfill
7728     }%
7729     \@skiphyperreffalse
7730     \if@filesw
7731         \begingroup
7732         \let\protect\noexpand
7733         \immediate\write\@auxout{%
7734             \string\bibcite{#2}{#1}%
7735         }%
7736     \endgroup
7737     \fi
7738     \ignorespaces
7739 }%

```

Since `\bibitem` is doing its own labelling, call the raw version of `\item`, to avoid extra spurious labels

```

7740 \def\@bibitem#1{%
7741     \@skiphyperreftrue\H@item\@skiphyperreffalse
7742     \Hy@raisedlink{%
7743         \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7744     }%
7745     \if@filesw
7746         \begingroup
7747         \let\protect\noexpand
7748         \immediate\write\@auxout{%
7749             \string\bibcite{#1}{\the\value{\@listctr}}%
7750         }%
7751     \endgroup
7752     \fi
7753     \ignorespaces
7754 }%
7755 }{}
7756 \</packageEnd>
7757 \<check>

```

```

7758 \checklatex
7759 \checkcommand\def\@bibitem[#1]#2{%
7760   \item[\@biblabel{#1}\hfill]%
7761   \if@filesw
7762     {%
7763       \let\protect\noexpand
7764       \immediate\write\@auxout{%
7765         \string\bibcite{#2}{#1}%
7766       }%
7767     }%
7768   \fi
7769   \ignorespaces
7770 }
7771 \checkcommand\def\@bibitem#1{%
7772   \item
7773   \if@filesw
7774     \immediate\write\@auxout{%
7775       \string\bibcite{#1}{\the\value{\@listctr}}%
7776     }%
7777   \fi
7778   \ignorespaces
7779 }
7780 \</check>
7781 \<packageEnd>

```

36.1 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.

```

7782 \<@ifpackageloaded{harvard}{%
7783   \Hy@AtBeginDocument{%
7784     \Hy@Info{*** compatibility with harvard **** }%
7785     \Hy@raiselinksfalse
7786     \def\harvardcite#1#2#3#4{%
7787       \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{#1}{#2}}%
7788       \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{#1}{#3}}%
7789       \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{#1}{#4}}%
7790       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7791     }%
7792     \def\HAR@citetoaux#1{%
7793       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7794       \ifHy@backref
7795         \ifx\@empty\@currentlabel
7796           \else
7797             \@bsphack
7798             \if@filesw
7799               \protected@write\@auxout{}{%
7800                 \string\@writefile{brf}{%

```

```

7801         \string\backcite{#1}{%
7802         {\thepage}{\@currentlabel}{\@currentHref}%
7803         }%
7804     }%
7805 }%
7806 \fi
7807 \@esphack
7808 \fi
7809 \fi
7810 }%
7811 \def\harvarditem{%
7812     \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7813 }%
7814 \def\@harvarditem[#1]#2#3#4#5\par{%
7815     \item[]%
7816     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7817     \if@filesw
7818         \begingroup
7819         \def\protect##1{\string ##1\space}%
7820         \ifthenelse{\equal{#1}{\null}}{%
7821             {\def\next{{#4}{#2}{#2}{#3}}}%
7822             {\def\next{{#4}{#2}{#1}{#3}}}%
7823             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7824         \endgroup
7825         \fi
7826         \protect\hspace*{-\labelwidth}%
7827         \protect\hspace*{-\labelsep}%
7828         \ignorespaces
7829         #5%
7830         \ifHy@backref
7831             \newblock
7832             \backref{\csname br@#4\endcsname}%
7833         \fi
7834         \par
7835     }%

```

\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:

```

7836 \long\def\HAR@checkcitations#1#2#3#4{%
7837     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7838     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7839         \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7840         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7841             \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7842             \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7843                 \else
7844                     \@tempswatruue
7845                 \fi
7846             \else
7847                 \@tempswatruue
7848             \fi
7849         \else
7850             \@tempswatruue

```

```

7851     \fi
7852   }%
7853 }%

7854 }{}

```

36.2 Package chicago

The links by `\citeN` and `\shortciteN` should include the closing parentheses.

```

7855 \ifpackageloaded{chicago}{%

\citeN
7856 \def\citeN{%
7857   \def\@citesep{-1000}%
7858   \def\@cite##1##2{##1}%
7859   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7860   \@citedata@opt
7861 }%

\shortciteN
7862 \def\shortciteN{%
7863   \def\@citesep{-1000}%
7864   \def\@cite##1##2{##1}%
7865   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7866   \@citedata@opt
7867 }%

\@citedata@opt
7868 \def\@citedata@opt{%
7869   \let\@cite@opt\@empty
7870   \@ifnextchar [{%
7871     \@tempswatrue
7872     \@citedatax@opt
7873   }{%
7874     \@tempswafalse
7875     \@citedatax[]%
7876   }%
7877 }%

\@citedatax@opt
7878 \def\@citedatax@opt[#1]{%
7879   \def\@cite@opt{, #1}%
7880   \@citedatax[{#1}]%
7881 }%

7882 }{}

```

37 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{pdf-pageduration={}}`. 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.

```

7883 \ltx@ifclassloaded{slides}{%
7884   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7885   \def\Hy@PageAnchorSlidesPlain{%
7886     \advance\c@page\ltx@one
7887     \edef\Hy@TempPageAnchor{%
7888       \noexpand\hyper@@@anchor{%
7889         page.\the\c@slide.\the\c@overlay.\the\c@note%
7890         \ifnum\c@page=\ltx@one
7891           \else
7892             .\the\c@page
7893           \fi
7894         }%
7895       }%
7896       \advance\c@page-\ltx@one
7897     }%
7898     \def\Hy@PageAnchorSlide{%
7899       \advance\c@page\ltx@one
7900       \ifnum\c@page>\ltx@one
7901         \ltx@ifundefined{theHpage}{%
7902           \protected@edef\Hy@TheSlideOptionalPage{%
7903             \Hy@SlidesFormatOptionalPage{theHpage}%
7904           }%
7905         }{%
7906           \protected@edef\Hy@TheSlideOptionalPage{%
7907             \Hy@SlidesFormatOptionalPage{theHpage}%
7908           }%
7909         }%
7910       \else
7911         \def\Hy@TheSlideOptionalPage{}%
7912       \fi
7913       \advance\c@page-\ltx@one
7914       \pdfstringdef\@the@H@page{%
7915         \csname
7916           the%
7917           \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7918           \Hy@SlidesPage
7919         \endcsname
7920       \Hy@TheSlideOptionalPage
7921     }%
7922     \ltx@gobblethree
7923   }%
7924   \def\Hy@SlidesPage{slide}%
7925   \g@addto@macro\slide{%
7926     \def\Hy@SlidesPage{slide}%
7927   }%
7928   \g@addto@macro\overlay{%
7929     \def\Hy@SlidesPage{overlay}%
7930   }%
7931   \g@addto@macro\note{%
7932     \def\Hy@SlidesPage{note}%
7933   }%

```

```

7934 }{%
7935 \def\Hy@PageAnchorSlidesPlain{}%
7936 \def\Hy@PageAnchorSlide{}%
7937 }
7938 \def\Hy@EveryPageAnchor{%
7939 \Hy@DistillerDestFix
7940 \ifHy@pageanchor
7941 \ifHy@hypertextnames
7942 \ifHy@plainpages
7943 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7944 \Hy@PageAnchorSlidesPlain
7945 \else
7946 \begingroup
7947 \let\@number\@firstofone
7948 \Hy@unicodedefalse
7949 \Hy@PageAnchorSlide
7950 \pdfstringdef\@the@H@page{\thepage}%
7951 \endgroup
7952 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7953 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7954 \fi
7955 \else
7956 \Hy@GlobalStepCount\Hy@pagecounter
7957 \def\Hy@TempPageAnchor{%
7958 \hyper@@anchor{page.\the\Hy@pagecounter}%
7959 }%
7960 \fi
7961 \vbox to 0pt{%
7962 \kern\voffset
7963 \kern\topmargin
7964 \kern-1bp\relax
7965 \hbox to 0pt{%
7966 \kern\hoffset
7967 \kern\ifodd\value{page}%
7968 \oddsidemargin
7969 \else
7970 \evensidemargin
7971 \fi
7972 \kern-1bp\relax
7973 \Hy@TempPageAnchor\relax
7974 \hss
7975 }%
7976 \vss
7977 }%
7978 \fi
7979 }
7980 \g@addto@macro\Hy@EveryPageBoxHook{%
7981 \Hy@EveryPageAnchor
7982 }

```

38 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. In newer L^AT_EX releases this is defined to put a % at the end of the line in the tocfile.

```

7983 \providecommand\protected@file@percent{}
7984 \@ifundefined{hyper@nopatch@toc}{%
7985   \def\addcontentsline#1#2#3{% toc extension, type, tag
7986     \begingroup
7987       \let\label\@gobble
7988       \ifx\@currentHref\@empty
7989         \Hy@Warning{%
7990           No destination for bookmark of \string\addcontentsline,%
7991           \MessageBreak destination is added%
7992         }%
7993       \phantomsection
7994     \fi
7995     \expandafter\ifx\csname toplevel@#2\endcsname\relax
7996       \begingroup
7997         \def\Hy@tempa{#1}%
7998         \ifx\Hy@tempa\Hy@bookmarkstype
7999           \Hy@WarningNoLine{%
8000             bookmark level for unknown #2 defaults to 0%
8001           }%
8002         \else
8003           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8004         \fi
8005       \endgroup
8006       \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8007     \fi
8008     \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8009     \Hy@writebookmark{\csname the#2\endcsname}%
8010       {#3}%
8011       {\@currentHref}%
8012       {\Hy@toplevel}%
8013       {#1}%
8014     \ifHy@verbose
8015       \begingroup
8016         \def\Hy@tempa{#3}%
8017         \@onelevel@sanitize\Hy@tempa
8018         \let\temp@online\on@line
8019         \let\on@line\@empty
8020         \Hy@Info{%
8021           bookmark\temp@online:\MessageBreak
8022           thecounter {\csname the#2\endcsname}\MessageBreak
8023           text {\Hy@tempa}\MessageBreak
8024           reference {\@currentHref}\MessageBreak
8025           toplevel {\Hy@toplevel}\MessageBreak
8026           type {#1}%
8027         }%
8028       \endgroup

```

```

8029 \fi
8030 \addtocontents{#1}{%
8031 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8032 }%
8033 \endgroup
8034 }
8035 }{}

```

`\contentsline` The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

change 2022-11-13: To avoid problems if `MakeUppercase` is used around the entry we use special protected commands:

```

8036 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8037 \protected\def\Hy@toclinkend{\hyper@linkend}
8038
8039 \@ifundefined{hyper@nopatch@toc}{%
8040 \def\contentsline#1#2#3#4{%
8041 \begingroup
8042 \Hy@safe@activetrue
8043 \edef\x{\endgroup
8044 \def\noexpand\Hy@tocdestname{#4}%
8045 }\x
8046 \ifx\Hy@tocdestname\ltx@empty
8047 \csname l@#1\endcsname{#2}{#3}%
8048 \else
8049 \ifcase\Hy@linktoc % none
8050 \csname l@#1\endcsname{#2}{#3}%
8051 \or % section
8052 \csname l@#1\endcsname{%
8053 \Hy@toclinkstart{#2}\Hy@toclinkend
8054 }{#3}%
8055 \or % page
8056 \def\Hy@temp{#3}%
8057 \ifx\Hy@temp\ltx@empty
8058 \csname l@#1\endcsname{#2}{#3}%
8059 \else
8060 \csname l@#1\endcsname{{#2}}{%
8061 \Hy@toclinkstart{#3}\Hy@toclinkend
8062 }%
8063 \fi
8064 \else % all
8065 \def\Hy@temp{#3}%
8066 \ifx\Hy@temp\ltx@empty
8067 \csname l@#1\endcsname{%
8068 \Hy@toclinkstart{#2}\Hy@toclinkend
8069 }{}%
8070 \else
8071 \csname l@#1\endcsname{%
8072 \Hy@toclinkstart{#2}\Hy@toclinkend
8073 }{%
8074 \Hy@toclinkstart{#3}\Hy@toclinkend
8075 }%
8076 \fi

```

```

8077     \fi
8078     \fi
8079   }
8080 }{}

8081 \</packageEnd>
8082 \<*check>
8083 \checklatex
8084 \checkcommand\def\addcontentsline#1#2#3{%
8085   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8086 }
8087 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8088 \</check>
8089 \<*packageEnd>

```

39 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.

```

8090 \@ifundefined{hyper@nopatch@counter}
8091 {
8092   \let\H@definecounter\@definecounter
8093   \def\@definecounter#1{%
8094     \H@definecounter{#1}%
8095     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8096   }
8097 }{}

```

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.

```

8098 \@ifundefined{hyper@nopatch@counter}
8099 {
8100   \let\H@newctr\@newctr
8101   \def\@newctr#1[#2]{%
8102     \H@newctr#1[{#2}]%
8103     \expandafter\gdef\csname theH#1\endcsname{%
8104       \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8105     }%
8106   }
8107 }{}

```

40 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.

If `\hyper@nopatch@amsmath@tag` is defined we don't patch but assume that kernel code adds anchors to equations.

```

8108 \ifundefined{hyper@nopatch@amsmath@tag}
8109   {%
8110     \ifpackageloaded{amsmath}{%
8111       \def\Hy@make@anchor{%
8112         \Hy@MakeCurrentHrefAuto{AMS}%
8113         \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8114       }%
8115       \def\Hy@make@df@tag@@#1{%
8116         \gdef\df@tag{%
8117           \maketag@@@{\Hy@make@anchor#1}%
8118           \def\@currentlabel{#1}%
8119         }%
8120       }%
8121       \def\Hy@make@df@tag@@@#1{%
8122         \gdef\df@tag{%
8123           \tagform@{\Hy@make@anchor#1}%
8124           \toks@{\xp{p@equation{#1}}}%
8125           \edef\@currentlabel{\the\toks@}%
8126         }%
8127       }%
8128       \let\HyOrg@make@df@tag@@\make@df@tag@@
8129       \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8130       \let\make@df@tag@@\Hy@make@df@tag@@
8131       \let\make@df@tag@@@\Hy@make@df@tag@@@
8132     }{}
8133   }{}

```

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}}}

```

40.1 \@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.

```

8134 \@ifundefined{hyper@nopatch@counter}
8135   {
8136     \let\HyOrg@addtoreset\@addtoreset
8137     \def\@addtoreset#1#2{%
8138       \HyOrg@addtoreset{#1}{#2}%
8139       \expandafter\xdef\csname theH#1\endcsname{%
8140         \expandafter\noexpand
8141         \csname the\@ifundefined{theH#2}{H#2\endcsname
8142         }\noexpand\the\noexpand\value{#1}%
8143       }%
8144     }
8145   }{}

```

`\numberwithin` A appropriate definition of `hyperref`'s companion counter (`\theH...`) is added for correct link names.

```

8146 \endpackage
8147 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8148 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8150   \ifundefined{c@#2}{\@nocounterr{#2}}{%
8151     \ifundefined{c@#3}{\@nocnterr{#3}}{%
8152       \@addtoreset{#2}{#3}%
8153       \xp\xdef\csname the#2\endcsname{%
8154         \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8155       }%
8156     }%
8157   }%
8158 }%
8159 \endcheck
8160 \endpackage
8161 \ifundefined{hyper@nopatch@counter}
8162 {
8163   \ifpackageloaded{amsmath}{%
8164     \renewcommand*\numberwithin[3][\arabic]{%
8165       \ifundefined{c@#2}{\@nocounterr{#2}}{%
8166         \ifundefined{c@#3}{\@nocnterr{#3}}{%
8167           \HyOrg@addtoreset{#2}{#3}%
8168           \xp\xdef\csname the#2\endcsname{%
8169             \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8170           }%
8171           \xp\xdef\csname theH#2\endcsname{%
8172             \xp\@nx
8173             \csname the\ifundefined{theH#3}{H#3}\endcsname
8174             .\@nx#1{#2}%
8175           }%
8176         }%
8177       }%
8178     }%
8179   }{}
8180 }{}

```

41 Included figures

Simply intercept the low level graphics package macro.

```

8181 \ifHy@hyperfigures
8182   \let\Hy@Gin@setfile\Gin@setfile
8183   \def\Gin@setfile#1#2#3{%
8184     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8185   }%
8186 \fi
8187 \Hy@DisableOption{hyperfigures}

```

42 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 emboldening 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.

```

8188 \ifHy@hyperindex
8189   \def\HyInd@ParenLeft{({}%
8190   \def\HyInd@ParenRight{)}}%
8191   \def\hyperindexformat#1#2{%
8192     \let\HyOrg@hyperpage\hyperpage
8193     \let\hyperpage\@firstofone
8194     #1{\HyOrg@hyperpage{#2}}%
8195     \let\hyperpage\HyOrg@hyperpage
8196   }%
8197   \Hy@nextfalse
8198   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8199   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8200   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8201   \begingroup
8202     \lccode`|=\expandafter`\HyInd@EncapChar\relax
8203     \lccode`\/=\`\\\relax
8204   \lowercase{\endgroup
8205     \ifHy@next
8206       \let\HyInd@org@wrindex\@wrindex
8207       \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2|\\}%
8208       \def\HyInd@@wrindex#1#2|#3|#4\\{%
8209         \ifx\\#3\\%
8210           \HyInd@org@wrindex{#1}{#2|hyperpage}%
8211         \else
8212           \HyInd@@@wrindex{#1}{#2}#3\\%
8213         \fi
8214       }%
8215       \def\HyInd@@@wrindex#1#2#3#4\\{%
8216         \def\Hy@temp@A{#3}%
8217         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8218           \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8219           \relax
8220         \HyInd@org@wrindex{#1}{%
8221           #2|hyperindexformat{/#3#4}%
8222         }%
8223       \else
8224         \ifx\\#4\\%
8225           \ifx\Hy@temp@A\HyInd@ParenRight
8226             \HyInd@org@wrindex{#1}{#2|#3}%
8227           \else
8228             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8229           \fi
8230         \else
8231           \HyInd@org@wrindex{#1}{%
8232             #2|#3hyperindexformat{/#4}%

```



```

8233     }%
8234     \fi
8235     \fi
8236 }%
8237 \else
8238 \def\@wrindex#1{\@wrindex#1||\}%
8239 \def\@wrindex#1|#2|#3\{\%
8240 \if@filesw
8241 \ifx\|#2\%
8242 \protected@write\@indexfile{}\{%
8243 \string\indexentry{#1|hyperpage}\thepage}%
8244 }%
8245 \else
8246 \HyInd@@@wrindex{#1}#2\%
8247 \fi
8248 \fi
8249 \endgroup
8250 \@esphack
8251 }%
8252 \def\HyInd@@@wrindex#1#2#3\{\%
8253 \def\Hy@temp@A{#2}%
8254 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8255 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8256 \relax
8257 \protected@write\@indexfile{}\{%
8258 \string\indexentry{%
8259 #1|hyperindexformat{/#2#3}%
8260 }\thepage}%
8261 }%
8262 \else
8263 \ifx\|#3\%
8264 \ifx\Hy@temp@A\HyInd@ParenRight
8265 \HyInd@DefKey{#1}%
8266 \ltx@ifundefined{HyInd@(\HyInd@key)}{%
8267 \let\Hy@temp\ltx@empty
8268 }{%
8269 \expandafter\let\expandafter\Hy@temp
8270 \csname HyInd@(\HyInd@key)\endcsname
8271 }%
8272 \protected@write\@indexfile{}\{%
8273 \string\indexentry{#1|#2\Hy@temp}\thepage}%
8274 }%
8275 \else
8276 \protected@write\@indexfile{}\{%
8277 \string\indexentry{#1|#2hyperpage}\thepage}%
8278 }%
8279 \HyInd@DefKey{#1}%
8280 \expandafter
8281 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8282 hyperpage%
8283 }%
8284 \fi
8285 \else
8286 \protected@write\@indexfile{}\{%

```

```

8287         \string\indexentry{%
8288             #1|#2hyperindexformat{/#3}%
8289         }\thepage}%
8290     }%
8291     \ifx\Hy@temp@A\HyInd@ParenLeft
8292         \HyInd@DefKey{#1}%
8293         \expandafter
8294         \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8295             hyperindexformat{/#3}%
8296         }%
8297     \fi
8298 \fi
8299 \fi
8300 }%
8301 \def\HyInd@DefKey#1{%
8302     \begingroup
8303     \let\protect\@unexpandable@protect
8304     \edef\Hy@temp{#1}%
8305     \ltx@onelevel@sanitize\Hy@temp
8306     \global\let\HyInd@key\Hy@temp
8307     \endgroup
8308 }%
8309 \fi
8310 }%
8311 \fi
8312 \Hy@DisableOption{hyperindex}
8313 \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.

```

8314 \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.

```

8315 \def\hyperpage#1{%
8316     \HyInd@hyperpage#1\nohyperpage{}\@nil
8317 }
8318 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8319     \HyInd@@hyperpage{#1}%
8320     #2%
8321     \def\Hy@temp{#3}%
8322     \ifx\Hy@temp\@empty
8323     \else
8324         \ltx@ReturnAfterFi{%
8325             \HyInd@hyperpage#3\@nil
8326         }%
8327     \fi
8328 }
8329 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8330 \def\@hyperpage#1--#2--#3\{%
8331     \ifx\#2\%
8332         \@commahyperpage{#1}%
8333     \else
8334         \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%

```

```

8335 \fi
8336 }
8337 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8338 \def\@commahyperpage#1, #2,#3\{\%
8339 \ifx\#2\%
8340 \HyInd@pagelink{#1}%
8341 \else
8342 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8343 \fi
8344 }

```

The argument of `\hyperpage` can be empty. And the line breaking algorithm of `Makeindex` can introduce spaces. So we have to remove them.

```

8345 \def\HyInd@pagelink#1{%
8346 \begingroup
8347 \toks@={}%
8348 \HyInd@removespaces#1 \@nil
8349 \endgroup
8350 }
8351 \def\HyInd@removespaces#1 #2\@nil{%
8352 \toks@=\expandafter{\the\toks@#1}%
8353 \ifx\#2\%
8354 \edef\x{\the\toks@}%
8355 \ifx\x\@empty
8356 \else
8357 \hyperlink{page.\the\toks@}{\the\toks@}%
8358 \fi
8359 \else
8360 \ltx@ReturnAfterFi{%
8361 \HyInd@removespaces#2\@nil
8362 }%
8363 \fi
8364 }

```

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.)

change 2022-11-13: added an `\@empty` for issue#261.

```

8365 \ifHy@texht
8366 \expandafter\endinput
8367 \fi
8368 \let\real@setref\@setref
8369 \def\@setref#1#2#3{% csname, extract group, refname
8370 \ifx#1\relax
8371 \protect\G@refundefinedtrue
8372 \nfss@text{\reset@font\bfseries ??}%
8373 \@latex@warning{%
8374 Reference `#3' on page \thepage \space undefined%
8375 }%
8376 \else
8377 \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8378 \fi
8379 }

```

`\Hy@setref@link` extracts the reference information entries, because `\hyper@link`

does not expand arguments for the automatic link type detection.

```

8380 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8381   \begingroup
8382   \toks0={\hyper@link{#5}{#4}}%
8383   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8384   \edef\x{\endgroup
8385     \the\toks0 {\the\toks1 }%
8386   }%
8387   \x
8388 }
8389 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8390   \ifx#1\relax
8391     \protect\G@refundefinedtrue
8392     \nfss@text{\reset@font\bfseries ??}%
8393     \@latex@warning{%
8394       Reference `#3' on page \thepage \space undefined%
8395     }%
8396   \else
8397     \protect\hyper@link
8398     {\expandafter\@fifthoffive#1}%
8399     {page.\expandafter\@secondoffive#1}%
8400     {\expandafter\@secondoffive#1}%
8401   \fi
8402 }
8403 \</packageEnd>
8404 \< *check>
8405 \checklatex
8406 \checkcommand\def\@setref#1#2#3{%
8407   \ifx#1\relax
8408     \protect\G@refundefinedtrue
8409     \nfss@text{\reset@font\bfseries ??}%
8410     \@latex@warning{%
8411       Reference `#3' on page \thepage\space undefined%
8412     }%
8413   \else
8414     \expandafter#2#1\relax
8415   \fi
8416 }
8417 \</check>
8418 \< *packageEnd>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8419 \def\HyRef@StarSetRef#1{%
8420   \begingroup
8421   \Hy@safe@activetrue
8422   \let\protect\@unexpandable@protect
8423   \edef\x{#1}%
8424   \@onelevel@sanitize\x
8425   \edef\x{\endgroup
8426     \noexpand\HyRef@@StarSetRef
8427     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8428   }%
8429   \x

```

```

8430 }
8431 \def\HyRef@StarSetRef#1#2#3{%
8432   \ifx#1\@undefined
8433     \let#1\relax
8434   \fi
8435   \real@setref#1#3{#2}%
8436 }
8437 \def\@refstar#1{%
8438   \HyRef@StarSetRef{#1}\@firstoffive
8439 }
8440 \def\@pagerefstar#1{%
8441   \HyRef@StarSetRef{#1}\@secondoffive
8442 }
8443 \def\@namerefstar#1{%
8444   \HyRef@StarSetRef{#1}\@thirdoffive
8445 }
8446 \def\@Refstar#1{%
8447   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8448 }%
8449 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8450   \MakeUppercase#1%
8451 }%
8452 \def\HyRef@Ref#1{%
8453   \hyperref[{#1}]{\Ref*{#1}}%
8454 }%
8455 \Hy@AtBeginDocument{%
8456   \@ifpackageloaded{varioref}{%

```

This are the patches for a varioref newer after 2019-09 Older versions are no longer supported. If `\hyper@nopatch@varioref` is defined we don't patch but assume that varioref handles the hyperlinks.

```

8457   \@ifundefined{hyper@nopatch@varioref}
8458   {
8459     \renewcommand\Vref@star[2][]{%
8460       \begingroup
8461         \let\T@pageref\@pagerefstar
8462         \Ref*{#2}
8463         \vpageref[#1]{#2}%
8464       \endgroup
8465     }%
8466     \renewcommand\Vr@f[2][]{%
8467       \begingroup
8468         \let\T@pageref\@pagerefstar
8469         \hyperref[{#2}]{%
8470           \Ref*{#2}
8471           \vpageref[#1]{#2}%
8472         }%
8473       \endgroup
8474     }%
8475     \renewcommand\vr@f[2][]{%
8476       \begingroup
8477         \let\T@pageref\@pagerefstar
8478         \hyperref[{#2}]{%
8479           \ref*{#2}

```

```

8480     \vpageref[#1]{#2}%
8481     }%
8482     \endgroup
8483 }%
8484 \renewcommand\vref@star[2][]{%
8485     \begingroup
8486     \let\T@pageref\@pagerefstar
8487     \ref*{#2}
8488     \vpageref[#1]{#2}%
8489     \endgroup
8490 }%
8491 }{}%
8492 }{}%
8493 }

8494 \DeclareRobustCommand*\autopageref{%
8495     \@ifstar{%
8496         \HyRef@autopagerefname\pageref*%
8497     }\HyRef@autopageref
8498 }
8499 \def\HyRef@autopageref#1{%
8500     \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8501 }
8502 \def\HyRef@autopagerefname{%
8503     \ltx@ifundefined{pageautorefname}{%
8504         \ltx@ifundefined{pagename}{%
8505             \Hy@Warning{No autoref name for `page'}%
8506         }{%
8507             \pagename\nobreakspace
8508         }%
8509     }{%
8510         \pageautorefname\nobreakspace
8511     }%
8512 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8513 \NewDocumentCommand\autoref{s}
8514 {
8515     \leavevmode
8516     \IfBooleanTF{#1}{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}}
8517 \def\HyRef@autoref#1#2{%
8518     \begingroup
8519     \Hy@safe@activetrue
8520     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8521 \endgroup
8522 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8523     \HyRef@ShowKeysRef{#2}%
8524     \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8525     \edef\HyRef@thisref{%
8526         \expandafter\@fourthoffive#1\@empty\@empty\@empty
8527     }%
8528     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8529     \Hy@safe@activesfalse
8530     #3}%

```

```

8531 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8532 }{%
8533 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8534 }{%
8535 \HyRef@currentHtag
8536 \expandafter\@firstoffive#1\@empty\@empty\@empty
8537 \null
8538 }%
8539 \else
8540 \protect\G@refundefinedtrue
8541 \nfss@text{\reset@font\bfseries ??}%
8542 \@latex@warning{%
8543 Reference `#2' on page \thepage\space undefined%
8544 }%
8545 \fi
8546 }
8547 \def\HyRef@testreftype#1.#2\{\%
8548 \ltx@ifundefined{#1autorefname}{%
8549 \ltx@ifundefined{#1name}{%
8550 \HyRef@StripStar#1\*\@nil{#1}%
8551 \ltx@ifundefined{\HyRef@name autorefname}{%
8552 \ltx@ifundefined{\HyRef@name name}{%
8553 \def\HyRef@currentHtag{%
8554 \Hy@Warning{No autoref name for `#1'}%
8555 }{%
8556 \edef\HyRef@currentHtag{%
8557 \expandafter\noexpand\csname\HyRef@name name\endcsname
8558 \noexpand~%
8559 }%
8560 }%
8561 }{%
8562 \edef\HyRef@currentHtag{%
8563 \expandafter\noexpand
8564 \csname\HyRef@name autorefname\endcsname
8565 \noexpand~%
8566 }%
8567 }%
8568 }{%
8569 \edef\HyRef@currentHtag{%
8570 \expandafter\noexpand\csname#1name\endcsname
8571 \noexpand~%
8572 }%
8573 }%
8574 }{%
8575 \edef\HyRef@currentHtag{%
8576 \expandafter\noexpand\csname#1autorefname\endcsname
8577 \noexpand~%
8578 }%
8579 }%
8580 }
8581 \def\HyRef@StripStar#1*\@nil#3{%
8582 \def\HyRef@name{#2}%
8583 \ifx\HyRef@name\HyRef@CaseStar
8584 \def\HyRef@name{#1}%

```

```

8585 \else
8586 \def\HyRef@name{#3}%
8587 \fi
8588 }
8589 \def\HyRef@CaseStar{*\\}
8590 \def\HyRef@currentHtag{}

```

Support for package `showkeys`.

`\HyRef@ShowKeysRef`

```

8591 \let\HyRef@ShowKeysRef\@gobble
8592 \def\HyRef@ShowKeysInit{%
8593 \ifcsname SK@@label\endcsname
8594 \ifx\SK@ref\@empty
8595 \else
8596 \def\HyRef@ShowKeysRef{%
8597 \SK@\SK@@ref
8598 }%
8599 \fi
8600 \fi
8601 }
8602 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8603 \providecommand*\AMSautorefname{\equationautorefname}
8604 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8605 \providecommand*\Itemautorefname{\itemautorefname}
8606 \providecommand*\itemautorefname{item}
8607 \providecommand*\equationautorefname{Equation}
8608 \providecommand*\footnoteautorefname{footnote}
8609 \providecommand*\itemautorefname{item}
8610 \providecommand*\figureautorefname{Figure}
8611 \providecommand*\tableautorefname{Table}
8612 \providecommand*\partautorefname{Part}
8613 \providecommand*\appendixautorefname{Appendix}
8614 \providecommand*\chapterautorefname{chapter}
8615 \providecommand*\sectionautorefname{section}
8616 \providecommand*\subsectionautorefname{subsection}
8617 \providecommand*\subsubsectionautorefname{subsubsection}
8618 \providecommand*\paragraphautorefname{paragraph}
8619 \providecommand*\subparagraphautorefname{subparagraph}
8620 \providecommand*\FancyVerbLineautorefname{line}
8621 \providecommand*\theoremautorefname{Theorem}
8622 \providecommand*\pageautorefname{page}
8623 \</packageEnd>

```

43 Configuration files

43.1 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 pdf_TE_X offers `\pdfescapestring`.

```

8624 <*pdfTex | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8625 \begingroup\expandafter\expandafter\expandafter\endgroup
8626 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8627 \begingroup
8628 \catcode\| =0 %
8629 \@makeother\| %
8630 |@firstofone{|endgroup
8631 |def|Hy@pstringdef#1#2{%
8632 |begingroup
8633 |edef~{|string~}%
8634 |xdef|Hy@gtemp{#2}%
8635 |endgroup
8636 |let#1|Hy@gtemp
8637 |@onelevel@sanitize#1%
8638 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8639 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8640 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8641 }%
8642 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8643 #1%
8644 |ifx|\#2|\%%
8645 |else
8646 \\\%
8647 |ltx@ReturnAfterFi{%
8648 |Hy@ExchangeBackslash#2|@nil
8649 }%
8650 |fi
8651 }%
8652 }%
8653 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8654 #1%
8655 \ifx\#2\%%
8656 \else
8657 \@backslashchar(%
8658 \ltx@ReturnAfterFi{%
8659 \Hy@ExchangeLeftParenthesis#2\@nil
8660 }%
8661 \fi
8662 }%
8663 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8664 #1%
8665 \ifx\#2\%%
8666 \else
8667 \@backslashchar)%
8668 \ltx@ReturnAfterFi{%
8669 \Hy@ExchangeRightParenthesis#2\@nil
8670 }%
8671 \fi
8672 }%
8673 \else
8674 \def\Hy@pstringdef#1#2{%

```

```

8675 \begingroup
8676 \edef~{\string~}%
8677 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8678 \endgroup
8679 \let#1\Hy@gtemp
8680 }%
8681 \fi
8682 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

43.2 pdfTeX

```

8683 <*pdfTeX>
8684 \providecommand*{\XR@ext}{pdf}
8685 \Hy@setbreaklinks{true}
8686 \def\HyPat@ObjRef{%
8687 [0-9]*[1-9][0-9]* 0 R%
8688 }

```

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

```

8689 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8690 \def\Hy@pdfminorversion{\pdfminorversion}%
8691 \ifHy@ocgcolorlinks
8692 \ifnum\Hy@pdfmajorminor@version<105 %
8693 \kvsetkeys{Hyp}{pdfversion=1.5}%
8694 \fi
8695 \fi
8696 \ifHy@setpdfversion
8697 \ifnum\Hy@pdf@majorminor@version<105 %
8698 \ltx@ifundefined{pdfobjcompresslevel}{%
8699 }{%
8700 \ifHy@verbose
8701 \Hy@InfoNoLine{%
8702 PDF object streams are disabled, because they are%
8703 \MessageBreak
8704 not supported in requested PDF version %
8705 \Hy@pdf@majorversion.\Hy@pdf@minorversion
8706 }%
8707 \fi
8708 \pdfobjcompresslevel=\ltx@zero
8709 }%
8710 \fi
8711 \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8712 \else
8713 \let\Hy@temp\ltx@empty
8714 \def\Hy@temp@A#1#2{%
8715 \ifnum#1>\ltx@zero
8716 \edef\Hy@temp{%
8717 \Hy@temp

```

```

8718     \space\space
8719     \the#1\space #2%
8720     \ifnum#1=\ltx@one\else s\fi
8721     \MessageBreak
8722 }%
8723 \fi
8724 }%
8725 \Hy@temp@A\pdflastobj{PDF object}%
8726 \Hy@temp@A\pdflastxform{form XObject}%
8727 \Hy@temp@A\pdflastximage{image XObject}%
8728 \Hy@temp@A\pdflastannot{annotation}%
8729 \ltx@ifundefined{pdflastlink}{%
8730 }{%
8731     \Hy@temp@A\pdflastlink{link}%
8732 }%
8733 \ifx\Hy@temp\ltx@empty
8734     \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8735     \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8736 \else
8737     \let\Hy@temp@A\ltx@empty
8738     \ifnum\Hy@pdf@majorminor@version=104 %
8739     \IfFileExists{pdf14.sty}{%
8740         \def\Hy@temp@A{%
8741             \MessageBreak
8742             Or \string\RequirePackage{pdf14} can be used%
8743             \MessageBreak
8744             before \string\documentclass\space as shortcut%
8745         }%
8746     }{}%
8747 \fi
8748 \Hy@WarningNoLine{%
8749     The PDF version number could not be set,\MessageBreak
8750     because some PDF objects are already written:%
8751     \MessageBreak
8752     \Hy@temp
8753     The version should be set as early as possible:%
8754     \MessageBreak
8755     \space\space
8756     \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8757     \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8758     \string\relax
8759     \ifnum\Hy@pdf@majorminor@version<105 %
8760     \ltx@ifundefined{pdfobjcompresslevel}{%
8761     }{%
8762         \MessageBreak
8763         \space\space
8764         \string\pdfobjcompresslevel=0\string\relax
8765     }%
8766 \fi
8767 \Hy@temp@A
8768 }%
8769 \fi
8770 \fi
8771 \PackageInfo{hyperref}{%

```

```

8772 \expandafter\string\Hy@pdfmajorversion.%
8773 \expandafter\string\Hy@pdfminorversion
8774 :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8775 }%
8776 \fi
8777 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8778 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8779 \Hy@DisableOption{pdfversion}%

8780 \ifHy@ocgcolorlinks
8781 \pdf@ifdraftmode{ }{%
8782 \immediate\pdfobj{%
8783 <<%
8784 /Type/OCG%
8785 /Name(View)%
8786 /Usage<<%
8787 /Print<<%
8788 /PrintState/OFF%
8789 >>%
8790 /View<<%
8791 /ViewState/ON%
8792 >>%
8793 >>%
8794 >>%
8795 }%
8796 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8797 \immediate\pdfobj{%
8798 <<%
8799 /Type/OCG%
8800 /Name(Print)%
8801 /Usage<<%
8802 /Print<<%
8803 /PrintState/ON%
8804 >>%
8805 /View<<%
8806 /ViewState/OFF%
8807 >>%
8808 >>%
8809 >>%
8810 }%
8811 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8812 \immediate\pdfobj{%
8813 [%
8814 \OBJ@OCG@view\space\OBJ@OCG@print
8815 ]%
8816 }%
8817 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8818 \pdfcatalog{%
8819 /OCProperties<<%
8820 /OCGs \OBJ@OCGs
8821 /D<<%
8822 /OFF[\OBJ@OCG@print]%
8823 /AS[%
8824 <<%
8825 /Event/View%

```

```

8826         /OCGs \OBJ@OCGs
8827         /Category[/View]%
8828     >>%
8829     <<%
8830         /Event/Print%
8831         /OCGs \OBJ@OCGs
8832         /Category[/Print]%
8833     >>%
8834     <<%
8835         /Event/Export%
8836         /OCGs \OBJ@OCGs
8837         /Category[/Print]%
8838     >>%
8839     ]%
8840 >>%
8841 >>%
8842 }%
8843 \begingroup
8844 \edef\x{\endgroup
8845 \pdfpageresources{%
8846 \the\pdfpageresources
8847 /Properties<<%
8848 /OCView \OBJ@OCG@view
8849 /OCPrint \OBJ@OCG@print
8850 >>%
8851 }%
8852 }%
8853 \x
8854 }%
8855 \Hy@AtBeginDocument{%
8856 \def\Hy@colorlink#1{%
8857 \begingroup
8858 \ifHy@ocgcolorlinks
8859 \def\Hy@ocgcolor{#1}%
8860 \setbox0=\hbox\bgroup\color@begingroup
8861 \else
8862 \HyColor@UseColor#1%
8863 \fi
8864 }%
8865 \def\Hy@endcolorlink{%
8866 \ifHy@ocgcolorlinks
8867 \color@endgroup\egroup
8868 \mbox{%
8869 \pdfliteral page{/OC/OCPrint BDC}%
8870 \rlap{\copy0}%
8871 \pdfliteral page{EMC/OC/OCView BDC}%
8872 \begingroup
8873 \expandafter\HyColor@UseColor\Hy@ocgcolor
8874 \box0 %
8875 \endgroup
8876 \pdfliteral page{EMC}%
8877 }%
8878 \fi
8879 \endgroup

```

```

8880 }%
8881 }%
8882 \else
8883 \Hy@DisableOption{ocgcolorlinks}%
8884 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

8885 \def\setpdfinkmargin#1{%
8886 \begingroup
8887 \setlength{\dimen@}{#1}%
8888 \expandafter\endgroup
8889 \expandafter\pdfinkmargin\the\dimen@\relax
8890 }
8891 \pdfinkmargin1pt %

```

First set up the default linking

```

8892 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8893 \Hy@WrapperDef\new@pdfink#1{%
8894 \ifhmode
8895 \savesf\spacefactor
8896 \fi
8897 \Hy@SaveLastskip
8898 \Hy@VerboseAnchor{#1}%
8899 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8900 \Hy@DestName\Hy@pstringDest\@pdfview
8901 \Hy@RestoreLastskip
8902 \ifhmode
8903 \spacefactor\@savesf
8904 \fi
8905 }
8906 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest` name in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

8907 \def\Hy@DestName#1#2{%
8908 \pdfdest name{#1}#2\relax
8909 }

```

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.

```

8910 \providecommand*\@pdfborder{0 0 1}
8911 \providecommand*\@pdfborderstyle{}
8912 \def\Hy@undefinedname{UNDEFINED}
8913 \def\find@pdfink#1#2{%
8914 \leavevmode
8915 \protected@edef\Hy@testname{#2}%
8916 \ifx\Hy@testname\@empty
8917 \Hy@Warning{%
8918 Empty destination name,\MessageBreak
8919 using ``\Hy@undefinedname'%
8920 }%

```

```

8921 \let\Hy@testname\Hy@undefinedname
8922 \else
8923 \Hy@pstringdef\Hy@testname{%
8924 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8925 }%
8926 \fi
8927 \Hy@StartlinkName{%
8928 \ifHy@pdfa /F 4\fi
8929 \Hy@setpdfborder
8930 \Hy@setpdfhighlight
8931 \ifx\CurrentBorderColor\relax
8932 \else
8933 /C[\CurrentBorderColor]%
8934 \fi
8935 }\Hy@testname
8936 \expandafter\Hy@colorlink\csname @#1color\endcsname
8937 }
8938 \def\Hy@StartlinkName#1#2{%
8939 \pdfstartlink attr{#1}goto name{#2}\relax
8940 }
8941 \def\close@pdfink{%
8942 \Hy@endcolorlink
8943 \Hy@VerboseLinkStop
8944 \pdfendlink
8945 }
8946 \def\hyper@anchor#1{%
8947 \new@pdfink{#1}\anchor@spot\pdf@endanchor
8948 }
8949 \def\hyper@anchorstart#1{%
8950 \new@pdfink{#1}%
8951 \Hy@activeanchortrue
8952 }
8953 \def\hyper@anchorend{%
8954 \pdf@endanchor
8955 \Hy@activeanchorfalse
8956 }
8957 \def\hyper@linkstart#1#2{%
8958 \Hy@VerboseLinkStart{#1}{#2}%
8959 \ltx@ifundefined{@#1bordercolor}{%
8960 \let\CurrentBorderColor\relax
8961 }{%
8962 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8963 }%
8964 \find@pdfink{#1}{#2}%
8965 }
8966 \def\hyper@linkend{\close@pdfink}
8967 \def\hyper@link#1#2#3{%
8968 \Hy@VerboseLinkStart{#1}{#2}%
8969 \ltx@ifundefined{@#1bordercolor}{%
8970 \let\CurrentBorderColor\relax
8971 }{%
8972 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8973 }%
8974 \find@pdfink{#1}{#2}#3\Hy@xspace@end

```

```

8975 \close@pdfink
8976 }
8977 \let\CurrentBorderColor\@linkbordercolor
8978 \def\hyper@linkurl#1#2{%
8979 \begingroup
8980 \Hy@pstringdef\Hy@pstringURI{#2}%
8981 \hyper@chars
8982 \leavevmode
8983 \pdfstartlink
8984 attr{%
8985 \Hy@setpdfborder
8986 \Hy@setpdfhighlight
8987 \ifx\@urlbordercolor\relax
8988 \else
8989 /C[\@urlbordercolor]%
8990 \fi
8991 }%
8992 user{%
8993 /Subtype/Link%
8994 \ifHy@pdfa /F 4\fi
8995 /A<<%
8996 /Type/Action%
8997 /S/URI%
8998 /URI(\Hy@pstringURI)%
8999 \ifHy@href@ismap
9000 /IsMap true%
9001 \fi
9002 \Hy@href@nextactionraw
9003 >>%
9004 }%
9005 \relax
9006 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9007 \close@pdfink
9008 \endgroup
9009 }
9010 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9011 \begingroup
9012 \def\Hy@pstringF{#2}%
9013 \Hy@CleanupFile\Hy@pstringF
9014 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9015 \Hy@pstringdef\Hy@pstringD{#3}%
9016 \Hy@MakeRemoteAction
9017 \leavevmode
9018 \pdfstartlink
9019 attr{%
9020 \Hy@setpdfborder
9021 \Hy@setpdfhighlight
9022 \ifx\@filebordercolor\relax
9023 \else
9024 /C[\@filebordercolor]%
9025 \fi
9026 }%
9027 user {%
9028 /Subtype/Link%

```



```

9029      \ifHy@pdfa /F 4\fi
9030      /A<<%
9031      /F(\Hy@pstringF)%
9032      /S/GoToR%
9033      \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}

```

```

9034      \ifx\#3\%
9035      /D[\Hy@href@page\@pdfremotestartview]%
9036      \else
9037      /D(\Hy@pstringD)%
9038      \fi
9039      \Hy@href@nextactionraw
9040      >>%
9041      }%
9042      \relax
9043      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9044      \close@pdflink
9045      \endgroup
9046      }
9047      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9048      \begingroup
9049      \Hy@pstringdef\Hy@pstringF{#1}%
9050      \Hy@pstringdef\Hy@pstringP{#3}%
9051      \leavevmode
9052      \pdfstartlink
9053      attr{%
9054      \Hy@setpdfborder
9055      \Hy@setpdfhighlight
9056      \ifx\@runbordercolor\relax
9057      \else
9058      /C[\@runbordercolor]%
9059      \fi
9060      }%
9061      user {%
9062      /Subtype/Link%
9063      \ifHy@pdfa /F 4\fi
9064      /A<<%
9065      /F(\Hy@pstringF)%
9066      /S/Launch%
9067      \Hy@SetNewWindow
9068      \ifx\#3\%
9069      \else
9070      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%

```

```

9071      \fi
9072      \Hy@href@nextactionraw
9073      >>%
9074      }%
9075      \relax
9076      \Hy@colorlink\@runcolor#2\Hy@xspace@end
9077      \close@pdflink
9078      \endgroup
9079      }

```

\PDF@SetupDox

```

9080 \def\PDF@SetupDoc{%
9081   \ifx\@pdfpagescrop\@empty
9082   \else
9083     \edef\process@me{%
9084       \pdfpagesattr={%
9085         /CropBox[\@pdfpagescrop]%
9086         \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9087         \else
9088           ^^J\the\pdfpagesattr
9089         \fi
9090       }%
9091     }%
9092     \process@me
9093   \fi
9094   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9095   \pdfcatalog{%
9096     /PageMode/\@pdfpagemode
9097     \ifx\@baseurl\@empty
9098     \else
9099       /URI<</Base(\Hy@pstringB)>>%
9100     \fi
9101   }%
9102   \ifx\@pdfstartpage\@empty
9103   \else
9104     \ifx\@pdfstartview\@empty
9105     \else
9106       openaction goto page\@pdfstartpage{\@pdfstartview}%
9107     \fi
9108   \fi
9109   \edef\Hy@temp{%
9110     \ifHy@pdftoolbar\else /HideToolbar true\fi
9111     \ifHy@pdfmenubar\else /HideMenubar true\fi
9112     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9113     \ifHy@pdffitwindow /FitWindow true\fi
9114     \ifHy@pdfcenterwindow /CenterWindow true\fi
9115     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9116     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9117     \Hy@UseNameKey{Direction}\@pdfdirection
9118     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9119     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9120     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9121     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9122     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

9123 \Hy@UseNameKey{Duplex}\@pdfduplex
9124 \ifx\@pdfpicktraybypdfsize\@empty
9125 \else
9126 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9127 \fi
9128 \ifx\@pdfprintpagerange\@empty
9129 \else
9130 /PrintPageRange[\@pdfprintpagerange]%
9131 \fi
9132 \ifx\@pdfnumcopies\@empty
9133 \else
9134 /NumCopies \@pdfnumcopies
9135 \fi
9136 }%
9137 \pdfcatalog{%
9138 \ifx\Hy@temp\@empty
9139 \else
9140 /ViewerPreferences<<\Hy@temp>>%
9141 \fi
9142 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9143 \ifx\@pdflang\relax
9144 \else
9145 /Lang(\@pdflang)%
9146 \fi
9147 }%
9148 }

```

\PDF@FinishDoc

```

9149 \def\PDF@FinishDoc{%
9150 \pdf@ifdraftmode{}{%
9151 \Hy@UseMaketitleInfos
9152 \HyInfo@GenerateAddons
9153 \pdfinfo{%
9154 /Author(\@pdfauthor)%
9155 /Title(\@pdftitle)%
9156 /Subject(\@pdfsubject)%
9157 /Creator(\@pdfcreator)%
9158 \ifx\@pdfcreationdate\@empty
9159 \else
9160 /CreationDate(\@pdfcreationdate)%
9161 \fi
9162 \ifx\@pdfmoddate\@empty
9163 \else
9164 /ModDate(\@pdfmoddate)%
9165 \fi
9166 \ifx\@pdfproducer\relax
9167 \else
9168 /Producer(\@pdfproducer)%
9169 \fi
9170 /Keywords(\@pdfkeywords)%
9171 \ifx\@pdftrapped\@empty
9172 \else
9173 /Trapped/\@pdftrapped
9174 \fi

```

```

9175 \HyInfo@Addons
9176 }%
9177 }%
9178 \Hy@DisableOption{pdfauthor}%
9179 \Hy@DisableOption{pdftitle}%
9180 \Hy@DisableOption{pdfsubject}%
9181 \Hy@DisableOption{pdfcreator}%
9182 \Hy@DisableOption{addtopdfcreator}%
9183 \Hy@DisableOption{pdfcreationdate}%
9184 \Hy@DisableOption{pdfmoddate}%
9185 \Hy@DisableOption{pdfproducer}%
9186 \Hy@DisableOption{pdfkeywords}%
9187 \Hy@DisableOption{pdftrapped}%
9188 \Hy@DisableOption{pdfinfo}%
9189 }

```

`\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`.

```

9190 \def\hyper@pagetransition{%
9191 \ifx\@pdfpagetransition\relax
9192 \else
9193 \expandafter\Hy@RemoveTransPageAttr
9194 \the\pdfpageattr^^J/Trans{}>>\END
9195 \ifx\@pdfpagetransition\@empty
9196 \else
9197 \edef\@processme{%
9198 \global\pdfpageattr{%
9199 \the\pdfpageattr
9200 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9201 }%
9202 }%
9203 \@processme
9204 \fi
9205 \fi
9206 }

```

`\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.

```

9207 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9208 \ifx\#2\%
9209 \global\pdfpageattr{#1}%
9210 \else
9211 \Hy@RemoveTransPageAttr#1#4\END
9212 \fi
9213 }

```

`\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`.

```

9214 \def\hyper@pageduration{%
9215   \ifx\@pdfpageduration\relax
9216   \else
9217     \expandafter
9218     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9219   \ifx\@pdfpageduration\@empty
9220   \else
9221     \edef\@processme{%
9222       \global\pdfpageattr{%
9223         \the\pdfpageattr
9224         ^^J/Dur \@pdfpageduration\space
9225       }%
9226     }%
9227     \@processme
9228   \fi
9229 \fi
9230 }

```

\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.

```

9231 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9232   \ifx\#2\%
9233     \global\pdfpageattr{#1}%
9234   \else
9235     \Hy@RemoveDurPageAttr#1#4\END
9236   \fi
9237 }

9238 \pdf@ifdraftmode{}{%
9239   \g@addto@macro\Hy@EveryPageHook{%
9240     \hyper@pagetransition
9241     \hyper@pageduration
9242   }%
9243 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9244 \</pdfTeX>
9245 \< *pdfTeX | xetex>
9246 \Hy@AtBeginDocument{%
9247   \ifHy@setpagesize
9248     \expandafter\@firstofone
9249   \else
9250     \expandafter\@gobble
9251   \fi
9252 }%
9253 \@ifclassloaded{seminar}{%
9254 \< *pdfTeX>
9255   \setlength{\pdfhorigin}{1truein}%
9256   \setlength{\pdfvorigin}{1truein}%
9257 \</pdfTeX>
9258   \ifportrait

```

```

9259 \ifdim\paperwidth=\z@
9260 \else
9261 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9262 \fi
9263 \ifdim\paperheight=\z@
9264 \else
9265 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9266 \fi
9267 \else
9268 \ifdim\paperheight=\z@
9269 \else
9270 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9271 \fi
9272 \ifdim\paperwidth=\z@
9273 \else
9274 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9275 \fi
9276 \fi
9277 }{%
9278 \ifnum\mag=\@m
9279 \ifdim\stockwidth>\z@
9280 \ifdim\stockheight>\z@
9281 \setlength{\pdfpagewidth}{\stockwidth}%
9282 \setlength{\pdfpageheight}{\stockheight}%
9283 \else
9284 \ifdim\paperwidth>\z@
9285 \ifdim\paperheight>\z@
9286 \setlength{\pdfpagewidth}{\paperwidth}%
9287 \setlength{\pdfpageheight}{\paperheight}%
9288 \fi
9289 \fi
9290 \fi
9291 \else
9292 \ifdim\stockwidth=\z@
9293 \ifdim\paperwidth>\z@
9294 \ifdim\paperheight>\z@
9295 \setlength{\pdfpagewidth}{\paperwidth}%
9296 \setlength{\pdfpageheight}{\paperheight}%
9297 \fi
9298 \fi
9299 \fi
9300 \fi
9301 \fi
9302 }%
9303 }%
9304 \Hy@DisableOption{setpagesize}%
9305 }
9306 </pdfTeX | xetex>
9307 < *pdfTeX>
9308 \def\Acrobatmenu#1#2{%
9309 \Hy@Acrobatmenu{#1}{#2}{%
9310 \leavevmode
9311 \EdefEscapeName\Hy@temp@menu{#1}%
9312 \pdfstartlink

```

```

9313 attr{%
9314   \Hy@setpdfborder
9315   \Hy@setpdfhighlight
9316   \ifx\@menubordercolor\relax
9317   \else
9318     /C[\@menubordercolor]%
9319   \fi
9320 }%
9321 user{%
9322   /Subtype/Link%
9323   \ifHy@pdfa /F 4\fi
9324   /A<<%
9325     /S/Named%
9326     /N/\Hy@temp@menu
9327     \Hy@href@nextactionraw
9328   >>%
9329 }%
9330 \relax
9331 \Hy@colorlink\@menucolor#2%
9332 \close@pdflink
9333 }%
9334 }

```

43.2.1 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.

change 2020-10-01: the code has been removed as outdated.

```
9335 </pdfTeX>
```

43.3 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 \TeX file — the \TeX 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.

```

9336 \*hypertext>
9337 \providecommand*\XR@ext\{dvi}
9338 \let\PDF@FinishDoc\ltx@empty
9339 \def\PDF@SetupDoc{%
9340   \ifx\@baseurl\@empty
9341   \else
9342     \special{html:<base href="\@baseurl">}%
9343   \fi
9344 }
9345 \Hy@WrapperDef\hyper@anchor#1{%
9346   \Hy@SaveLastskip
9347   \Hy@VerboseAnchor{#1}%
9348   \begingroup
9349     \let\protect=\string
9350     \hyper@chars
9351     \special{html:<a name=%
9352       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9353   \endgroup
9354   \Hy@activeanchortrue
9355   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9356   \special{html:</a>}%
9357   \Hy@activeanchorfalse
9358   \Hy@RestoreLastskip
9359 }
9360 \Hy@WrapperDef\hyper@anchorstart#1{%
9361   \Hy@SaveLastskip
9362   \Hy@VerboseAnchor{#1}%
9363   \begingroup
9364     \hyper@chars
9365     \special{html:<a name=%
9366       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9367   \endgroup
9368   \Hy@activeanchortrue
9369 }

```



```

9370 \def\hyper@anchorend{%
9371   \special{html:</a>}%
9372   \Hy@activeanchorfalse
9373   \Hy@RestoreLastskip
9374 }
9375 \def\@urltype{url}
9376 \def\hyper@linkstart#1#2{%
9377   \Hy@VerboseLinkStart{#1}{#2}%
9378   \expandafter\Hy@colorlink\csname @#1color\endcsname
9379   \def\Hy@tempa{#1}%
9380   \ifx\Hy@tempa\@urltype
9381     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9382   \else
9383     \begingroup
9384       \hyper@chars
9385       \special{html:<a href=
9386         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
9387     \endgroup
9388   \fi
9389 }
9390 \def\hyper@linkend{%
9391   \special{html:</a>}%
9392   \Hy@endcolorlink
9393 }
9394 \def\hyper@linkfile#1#2#3{%
9395   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9396 }
9397 \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.

```

9398 \leavevmode
9399 \ifHy@raiselinks
9400   \Hy@SaveSpaceFactor
9401   \Hy@SaveSavedSpaceFactor
9402   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9403   \Hy@RestoreSavedSpaceFactor
9404   \@linkdim\dp\@tempboxa
9405   \lower\@linkdim\hbox{%
9406     \hyper@chars
9407     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9408   }%
9409   \Hy@colorlink\@urlcolor
9410   \Hy@RestoreSpaceFactor
9411   #1%
9412   \Hy@SaveSpaceFactor
9413   \@linkdim\ht\@tempboxa

```

Because of the interaction with the `dvi` 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).

```

9414   \advance\@linkdim by -6.5\p@
9415   \raise\@linkdim\hbox{\special{html:</a>}}%

```

```

9416 \Hy@endcolorlink
9417 \Hy@RestoreSpaceFactor
9418 \else
9419 \begingroup
9420 \hyper@chars
9421 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9422 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9423 \special{html:</a>}%
9424 \Hy@endcolorlink
9425 \endgroup
9426 \fi
9427 }

```

Very poor implementation of `\hyper@link` without considering `#1`.

```

9428 \def\hyper@link#1#2#3{%
9429 \Hy@VerboseLinkStart{#1}{#2}%
9430 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
9431 }

9432 \def\hyper@image#1#2{%
9433 \begingroup
9434 \hyper@chars
9435 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9436 \endgroup
9437 }
9438 </hypertex>
9439 < *dviwindo>

```

43.4 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.

```

9440 \providecommand*\XR@ext{dvi}
9441 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9442 \Hy@WrapperDef\hyper@anchor#1{%
9443 \Hy@SaveLastskip
9444 \Hy@VerboseAnchor{#1}%
9445 \begingroup
9446 \let\protect=\string
9447 \special{mark: #1}%
9448 \endgroup
9449 \Hy@activeanchortrue
9450 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9451 \Hy@activeanchorfalse
9452 \Hy@RestoreLastskip

```

```

9453 }
9454 \Hy@WrapperDef\hyper@anchorstart#1{%
9455   \Hy@SaveLastskip
9456   \Hy@VerboseAnchor{#1}%
9457   \special{mark: #1}%
9458   \Hy@activeanchortrue
9459 }
9460 \def\hyper@anchorend{%
9461   \Hy@activeanchorfalse
9462   \Hy@RestoreLastskip
9463 }
9464 \def\hyper@linkstart#1#2{%
9465   \Hy@VerboseLinkStart{#1}{#2}%
9466   \expandafter\Hy@colorlink\csname @#1color\endcsname
9467   \special{button: %
9468     10000000 %
9469     \number\baselineskip\space
9470     #2%
9471   }%
9472 }
9473 \def\hyper@linkend{%
9474   \Hy@endcolorlink
9475 }
9476 \def\hyper@link#1#2#3{%
9477   \Hy@VerboseLinkStart{#1}{#2}%
9478   \leavevmode
9479   \ifHy@raiselinks
9480     \Hy@SaveSpaceFactor
9481     \Hy@SaveSavedSpaceFactor
9482     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9483     \Hy@RestoreSavedSpaceFactor
9484     \@linkdim\dp\@tempboxa
9485     \lower\@linkdim\hbox{%
9486       \special{button: %
9487         \number\wd\@tempboxa\space
9488         \number\ht\@tempboxa\space
9489         #2%
9490       }%
9491       \expandafter\Hy@colorlink\csname @#1color\endcsname
9492       \Hy@RestoreSpaceFactor
9493       #3\Hy@xspace@end
9494       \Hy@SaveSpaceFactor
9495       \Hy@endcolorlink
9496     }%
9497     \@linkdim\ht\@tempboxa
9498     \advance\@linkdim by -6.5\p@
9499     \raise\@linkdim\hbox{}%
9500     \Hy@RestoreSpaceFactor
9501   \else
9502     \special{button: %
9503       \number\wd\@tempboxa\space
9504       \number\ht\@tempboxa\space
9505       #2%
9506     }%

```

```

9507 \expandafter\Hy@colorlink\csmame @#1color\endcsname
9508 #3\Hy@xspace@end
9509 \Hy@endcolorlink
9510 \fi
9511 }
9512 \def\hyper@linkurl#1#2{%
9513 \begingroup
9514 \hyper@chars
9515 \leavevmode
9516 \ifHy@raiselinks
9517 \Hy@SaveSpaceFactor
9518 \Hy@SaveSavedSpaceFactor
9519 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9520 \Hy@RestoreSavedSpaceFactor
9521 \@linkdim\dp\@tempboxa
9522 \lower\@linkdim\hbox{%
9523 \special{button: %
9524 \number\wd\@tempboxa\space
9525 \number\ht\@tempboxa\space
9526 launch: \wwwbrowser\space
9527 #2%
9528 }%
9529 \Hy@colorlink\@urlcolor
9530 \Hy@RestoreSpaceFactor
9531 #1\Hy@xspace@end
9532 \Hy@SaveSpaceFactor
9533 \Hy@endcolorlink
9534 }%
9535 \@linkdim\ht\@tempboxa
9536 \advance\@linkdim by -6.5\p@
9537 \raise\@linkdim\hbox{}}%
9538 \Hy@RestoreSpaceFactor
9539 \else
9540 \special{button: %
9541 \number\wd\@tempboxa\space
9542 \number\ht\@tempboxa\space
9543 launch: \wwwbrowser\space
9544 #2%
9545 }%
9546 \Hy@colorlink\@urlcolor
9547 #1\Hy@xspace@end
9548 \Hy@endcolorlink
9549 \fi
9550 \endgroup
9551 }
9552 \def\hyper@linkfile#1#2#3{%
9553 \begingroup
9554 \hyper@chars
9555 \leavevmode
9556 \ifHy@raiselinks
9557 \Hy@SaveSpaceFactor
9558 \Hy@SaveSavedSpaceFactor
9559 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9560 \Hy@RestoreSavedSpaceFactor

```

```

9561 \@linkdim\dp\@tempboxa
9562 \lower\@linkdim\hbox{%
9563 \special{button: %
9564 \number\wd\@tempboxa\space
9565 \number\ht\@tempboxa\space
9566 #3,%
9567 file: #2%
9568 }%
9569 \Hy@colorlink\@filecolor
9570 \Hy@RestoreSpaceFactor
9571 #1\Hy@xspace@end
9572 \Hy@SaveSpaceFactor
9573 \Hy@endcolorlink
9574 }%
9575 \@linkdim\ht\@tempboxa
9576 \advance\@linkdim by -6.5\p@
9577 \raise\@linkdim\hbox{}%
9578 \Hy@RestoreSpaceFactor
9579 \else
9580 \special{button: %
9581 \number\wd\@tempboxa\space
9582 \number\ht\@tempboxa\space
9583 #3,%
9584 file: #2%
9585 }%
9586 \Hy@colorlink\@filecolor
9587 #1\Hy@xspace@end
9588 \Hy@endcolorlink
9589 \fi
9590 \endgroup
9591 }
9592 \HyInfo@AddonUnsupportedtrue
9593 \def\PDF@FinishDoc{%
9594 \Hy@UseMaketitleInfos
9595 \HyInfo@TrappedUnsupported
9596 \special{PDF: Keywords \@pdfkeywords}%
9597 \special{PDF: Title \@pdftitle}%
9598 \special{PDF: Creator \@pdfcreator}%
9599 \ifx\@pdfcreationdate\@empty
9600 \else
9601 \special{PDF: CreationDate \@pdfcreationdate}%
9602 \fi
9603 \ifx\@pdfmoddate\@empty
9604 \else
9605 \special{PDF: ModDate \@pdfmoddate}%
9606 \fi
9607 \special{PDF: Author \@pdfauthor}%
9608 \ifx\@pdfproducer\relax
9609 \else
9610 \special{PDF: Producer \@pdfproducer}%
9611 \fi
9612 \special{PDF: Subject \@pdfsubject}%
9613 \Hy@DisableOption{pdfauthor}%
9614 \Hy@DisableOption{pdftitle}%

```

```

9615 \Hy@DisableOption{pdfsubject}%
9616 \Hy@DisableOption{pdfcreator}%
9617 \Hy@DisableOption{addtopdfcreator}%
9618 \Hy@DisableOption{pdfcreationdate}%
9619 \Hy@DisableOption{pdfcreationdate}%
9620 \Hy@DisableOption{pdfmoddate}%
9621 \Hy@DisableOption{pdfproducer}%
9622 \Hy@DisableOption{pdfkeywords}%
9623 \Hy@DisableOption{pdftrapped}%
9624 \Hy@DisableOption{pdfinfo}%
9625 }
9626 \def\PDF@SetupDoc{%
9627 \ifx\@baseurl\@empty
9628 \else
9629 \special{PDF: Base \@baseurl}%
9630 \fi
9631 \ifx\@pdfpagescrop\@empty\else
9632 \special{PDF: BBox \@pdfpagescrop}%
9633 \fi
9634 \def\Hy@temp{}%
9635 \ifx\@pdfstartpage\@empty
9636 \else
9637 \ifx\@pdfstartview\@empty
9638 \else
9639 \edef\Hy@temp{%
9640 ,Page=\@pdfstartpage
9641 ,View=\@pdfstartview
9642 }%
9643 \fi
9644 \fi
9645 \edef\Hy@temp{%
9646 \noexpand\pdfmark{%
9647 pdfmark=/DOCVIEW,%
9648 PageMode=/\@pdfpagemode
9649 \Hy@temp
9650 }%
9651 }%
9652 \Hy@temp
9653 \ifx\@pdfpagescrop\@empty
9654 \else
9655 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9656 \fi
9657 \edef\Hy@temp{%
9658 \ifHy@pdftoolbar\else /HideToolbar true\fi
9659 \ifHy@pdfmenubar\else /HideMenubar true\fi
9660 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9661 \ifHy@pdffitwindow /FitWindow true\fi
9662 \ifHy@pdfcenterwindow /CenterWindow true\fi
9663 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9664 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9665 \Hy@UseNameKey{Direction}\@pdfdirection
9666 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9667 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9668 \Hy@UseNameKey{PrintArea}\@pdfprintarea

```

```

9669 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9670 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9671 \Hy@UseNameKey{Duplex}\@pdfduplex
9672 \ifx\@pdfpicktraybypdfsize\@empty
9673 \else
9674 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9675 \fi
9676 \ifx\@pdfprintpagerange\@empty
9677 \else
9678 /PrintPageRange\@pdfprintpagerange\%
9679 \fi
9680 \ifx\@pdfnumcopies\@empty
9681 \else
9682 /NumCopies \@pdfnumcopies
9683 \fi
9684 }%
9685 \pdfmark{pdfmark=/PUT,%
9686 Raw={%
9687 \string{Catalog\string}<<%
9688 \ifx\Hy@temp\@empty
9689 \else
9690 /ViewerPreferences<<\Hy@temp>>%
9691 \fi
9692 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9693 \ifx\@pdflang\relax
9694 \else
9695 /Lang(\@pdflang)%
9696 \fi
9697 >>%
9698 }%
9699 }%
9700 }
9701 </dviwindo>
9702 <*dvipdfm|xetex>

```

43.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

(x)dvipdfmx replaces destination names by numbers. This makes it impossible to link from an external document with xr-hyper, so from version 7.00j on this is suppressed with a config special.

```

9703 \special{dvipdfmx:config C 0x0010}
9704 \providecommand*\XR@ext\{pdf}
9705 \Hy@setbreaklinks{true}
9706 \def\HyPat@ObjRef{%
9707 @[\ ]+}%
9708 }
9709 \newsavebox\pdfm@box}
9710 \def\@pdfm@mark#1{\special{pdf:#1}}
9711 \Hy@WrapperDef\@pdfm@dest#1{%
9712 \Hy@SaveLastskip
9713 \Hy@VerboseAnchor{#1}%
9714 \begingroup

```

```

9715 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9716 \def\x{XYZ}%
9717 \ifx\x\@pdfview
9718 \def\x{XYZ @xpos @ypos null}%
9719 \else
9720 \def\x{FitH}%
9721 \ifx\x\@pdfview
9722 \def\x{FitH @ypos}%
9723 \else
9724 \def\x{FitBH}%
9725 \ifx\x\@pdfview
9726 \def\x{FitBH @ypos}%
9727 \else
9728 \def\x{FitV}%
9729 \ifx\x\@pdfview
9730 \def\x{FitV @xpos}%
9731 \else
9732 \def\x{FitBV}%
9733 \ifx\x\@pdfview
9734 \def\x{FitBV @xpos}%
9735 \else
9736 \def\x{Fit}%
9737 \ifx\x\@pdfview
9738 \let\x\@pdfview
9739 \else
9740 \def\x{FitB}%
9741 \ifx\x\@pdfview
9742 \let\x\@pdfview
9743 \else
9744 \def\x{FitR}%
9745 \ifx\x\@pdfview
9746 \Hy@Warning{'pdfview=FitR' is not supported}%
9747 \def\x{XYZ @xpos @ypos null}%
9748 \else
9749 \@onelevel@sanitize\@pdfview
9750 \Hy@Warning{%
9751   Unknown value '\@pdfview' for pdfview%
9752 }%
9753 \def\x{XYZ @xpos @ypos null}%
9754 \fi
9755 \fi
9756 \fi
9757 \fi
9758 \fi
9759 \fi
9760 \fi
9761 \fi
9762 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9763 \endgroup
9764 \Hy@RestoreLastskip
9765 }
9766 \providecommand*\@pdfview{XYZ}
9767 \providecommand*\@pdfborder{0 0 1}
9768 \providecommand*\@pdfborderstyle{}

```



```

9769 \def\hyper@anchor#1{%
9770 \@pdfm@dest{#1}%
9771 }
9772 \def\hyper@anchorstart#1{%
9773 \Hy@activeanchortrue
9774 \@pdfm@dest{#1}%
9775 }
9776 \def\hyper@anchorend{%
9777 \Hy@activeanchorfalse
9778 }

9779 \newcounter{Hy@AnnotLevel}

9780 \ifHy@ocgcolorlinks
9781 \def\OBJ@OCG@view{@OCG@view}%
9782 \@pdfm@mark{%
9783   obj \OBJ@OCG@view <<%
9784     /Type/OCG%
9785     /Name(View)%
9786     /Usage<<%
9787     /Print<<%
9788     /PrintState/OFF%
9789     >>%
9790     /View<<%
9791     /ViewState/ON%
9792     >>%
9793     >>%
9794     >>%
9795   }%
9796 \@pdfm@mark{close \OBJ@OCG@view}%
9797 \def\OBJ@OCG@print{@OCG@print}%
9798 \@pdfm@mark{%
9799   obj \OBJ@OCG@print <<%
9800     /Type/OCG%
9801     /Name(Print)%
9802     /Usage<<%
9803     /Print<<%
9804     /PrintState/ON%
9805     >>%
9806     /View<<%
9807     /ViewState/OFF%
9808     >>%
9809     >>%
9810     >>%
9811   }%
9812 \@pdfm@mark{close \OBJ@OCG@print}%
9813 \def\OBJ@OCGs{@OCGs}%
9814 \@pdfm@mark{%
9815   obj \OBJ@OCGs [%
9816     \OBJ@OCG@view\space\OBJ@OCG@print
9817   ]%
9818 }%
9819 \@pdfm@mark{close \OBJ@OCGs}%
9820 \@pdfm@mark{%
9821   put @catalog <<%

```

```

9822 /OCProperties<<%
9823 /OCGs \OBJ@OCGs
9824 /D<<%
9825 /OFF[\OBJ@OCG@print]%
9826 /AS[%
9827 <<%
9828 /Event/View%
9829 /OCGs \OBJ@OCGs
9830 /Category[/View]%
9831 >>%
9832 <<%
9833 /Event/Print%
9834 /OCGs \OBJ@OCGs
9835 /Category[/Print]%
9836 >>%
9837 <<%
9838 /Event/Export%
9839 /OCGs \OBJ@OCGs
9840 /Category[/Print]%
9841 >>%
9842 ]%
9843 >>%
9844 >>%
9845 >>%
9846 }%
9847 \AtBeginShipout{%
9848 \setbox\AtBeginShipoutBox=\hbox{%
9849 \copy\AtBeginShipoutBox
9850 \@pdfm@mark{%
9851 put @resources <<%
9852 /Properties<<%
9853 /OCView \OBJ@OCG@view
9854 /OCPrint \OBJ@OCG@print
9855 >>%
9856 >>%
9857 }%
9858 }%
9859 }%
9860 \Hy@AtBeginDocument{%
9861 \def\Hy@colorlink#1{%
9862 \begingroup
9863 \ifHy@ocgcolorlinks
9864 \def\Hy@ocgcolor{#1}%
9865 \setbox0=\hbox\bgroup\color@begingroup
9866 \else
9867 \HyColor@UseColor#1%
9868 \fi
9869 }%
9870 \def\Hy@endcolorlink{%
9871 \ifHy@ocgcolorlinks
9872 \color@endgroup\egroup
9873 \mbox{%
9874 \@pdfm@mark{content /OC/OCPrint BDC}%
9875 \rlap{\copy0}%

```

```

9876 \pdfmark{content EMC/OC/OCView BDC}%
9877 \begingroup
9878 \expandafter\HyColor@UseColor\Hy@ocgcolor
9879 \box0 %
9880 \endgroup
9881 \pdfmark{content EMC}%
9882 }%
9883 \fi
9884 \endgroup
9885 }%
9886 }%
9887 \else
9888 \Hy@DisableOption{ocgcolorlinks}%
9889 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9890 \def\Hy@BeginAnnot#1{%
9891 \global\advance\c@Hy@AnnotLevel\@ne
9892 \ifnum\c@Hy@AnnotLevel=\@ne
9893 #1%
9894 \fi
9895 }
9896 \def\Hy@endAnnot{%
9897 \ifnum\value{Hy@AnnotLevel}=\@ne
9898 \Hy@endcolorlink
9899 \pdfmark{eann}%
9900 \fi
9901 \global\advance\c@Hy@AnnotLevel\m@ne
9902 }

9903 \def\Hy@undefinedname{UNDEFINED}
9904 \def\hyper@linkstart#1#2{%
9905 \Hy@VerboseLinkStart{#1}{#2}%
9906 \leavevmode
9907 \Hy@BeginAnnot{%
9908 \protected@edef\Hy@testname{#2}%
9909 \ifx\Hy@testname\@empty
9910 \Hy@Warning{%
9911 Empty destination name,\MessageBreak
9912 using ``\Hy@undefinedname'%
9913 }%
9914 \let\Hy@testname\Hy@undefinedname
9915 \else
9916 \Hy@pstringdef\Hy@testname{%
9917 \expandafter\HyperDestNameFilter\expandafter{%
9918 \Hy@testname
9919 }%
9920 }%
9921 \fi
9922 \pdfmark{%
9923 bann<<%
9924 /Type/Annot%
9925 /Subtype/Link%
9926 \ifHy@pdfa /F 4\fi

```

```

9927 \Hy@setpdfborder
9928 \Hy@setpdfhighlight
9929 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9930 \else
9931 /C[\csname @#1bordercolor\endcsname]%
9932 \fi
9933 /A<<%
9934 /S/GoTo%
9935 /D(\Hy@testname)%
9936 \Hy@href@nextactionraw
9937 >>%
9938 >>%
9939 }%
9940 \expandafter\Hy@colorlink\csname @#1color\endcsname
9941 }%
9942 }
9943 \def\hyper@linkend{\Hy@EndAnnot}%
9944 \def\hyper@link#1#2#3{%
9945 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9946 }
9947 \def\hyper@linkfile#1#2#3{%
9948 \leavevmode
9949 \Hy@BeginAnnot{%
9950 \def\Hy@pstringF{#2}%
9951 \Hy@CleanupFile\Hy@pstringF
9952 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9953 \Hy@pstringdef\Hy@pstringD{#3}%
9954 \Hy@MakeRemoteAction
9955 \@pdfm@mark{%
9956 bann<<%
9957 /Type/Annot%
9958 /Subtype/Link%
9959 \ifHy@pdfa /F 4\fi
9960 \Hy@setpdfborder
9961 \Hy@setpdfhighlight
9962 \ifx\@filebordercolor\relax
9963 \else
9964 /C[\@filebordercolor]%
9965 \fi
9966 /A<<%
9967 /S/GoToR%
9968 /F(\Hy@pstringF)%
9969 /D%
9970 \ifx\#3\%
9971 [\Hy@href@page\@pdfremotestartview]%
9972 \else
9973 (\Hy@pstringD)%
9974 \fi
9975 \Hy@SetNewWindow
9976 \Hy@href@nextactionraw
9977 >>%
9978 >>%
9979 }%
9980 \Hy@colorlink\@filecolor

```

```

9981 }%
9982 #1\Hy@xspace@end
9983 \Hy@EndAnnot
9984 }
9985 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9986 \leavevmode
9987 \Hy@BeginAnnot{%
9988 \Hy@pstringdef\Hy@pstringF{#1}%
9989 \Hy@pstringdef\Hy@pstringP{#3}%
9990 \@pdfm@mark{%
9991 bann<<%
9992 /Type/Annot%
9993 /Subtype/Link%
9994 \ifHy@pdfa /F 4\fi
9995 \Hy@setpdfborder
9996 \Hy@setpdfhighlight
9997 \ifx\@runbordercolor\relax
9998 \else
9999 /C[\@runbordercolor]%
10000 \fi
10001 /A<<%
10002 /F(\Hy@pstringF)%
10003 /S/Launch%
10004 \Hy@SetNewWindow
10005 \ifx\|#3\|
10006 \else
10007 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10008 \fi
10009 \Hy@href@nextactionraw
10010 >>%
10011 >>%
10012 }%
10013 \Hy@colorlink\@runcolor
10014 }%
10015 #2\Hy@xspace@end
10016 \Hy@EndAnnot
10017 }
10018 \def\hyper@linkurl#1#2{%
10019 \leavevmode
10020 \Hy@BeginAnnot{%
10021 \Hy@pstringdef\Hy@pstringURI{#2}%
10022 \@pdfm@mark{%
10023 bann<<%
10024 /Type/Annot%
10025 /Subtype/Link%
10026 \ifHy@pdfa /F 4\fi
10027 \Hy@setpdfborder
10028 \Hy@setpdfhighlight
10029 \ifx\@urlbordercolor\relax
10030 \else
10031 /C[\@urlbordercolor]%
10032 \fi
10033 /A<<%
10034 /S/URI%

```

```

10035      /URI(\Hy@pstringURI)%
10036      \ifHy@href@ismap
10037      /IsMap true%
10038      \fi
10039      \Hy@href@nextactionraw
10040      >>%
10041      >>%
10042      }%
10043      \Hy@colorlink\@urlcolor
10044      }%
10045      #1\Hy@xspace@end
10046      \Hy@endAnnot
10047      }
10048      \def\Acrobatmenu#1#2{%
10049      \Hy@Acrobatmenu{#1}{#2}{%
10050      \Hy@BeginAnnot{%
10051      \EdefEscapeName\Hy@temp@menu{#1}%
10052      \@pdfm@mark{%
10053      bann<<%
10054      /Type/Annot%
10055      /Subtype/Link%
10056      \ifHy@pdfa /F 4\fi
10057      \Hy@setpdfborder
10058      \Hy@setpdfhighlight
10059      \ifx\@menubordercolor\relax
10060      \else
10061      /C[\@menubordercolor]%
10062      \fi
10063      /A<<%
10064      /S/Named%
10065      /N/\Hy@temp@menu
10066      \Hy@href@nextactionraw
10067      >>%
10068      >>%
10069      }%
10070      \Hy@colorlink\@menucolor
10071      }%
10072      #2\Hy@xspace@end
10073      \Hy@endAnnot
10074      }%
10075      }
10076
10077      \def\PDF@FinishDoc{%
10078      \Hy@UseMaketitleInfos
10079      \Hy@Info@GenerateAddons
10080      \@pdfm@mark{%
10081      docinfo<<%
10082      /Title(\@pdftitle)%
10083      /Subject(\@pdfsubject)%
10084      /Creator(\@pdfcreator)%
10085      \ifx\@pdfcreationdate\@empty
10086      \else
10087      /CreationDate(\@pdfcreationdate)%
10088      \fi

```

```

10089 \ifx\@pdfmoddate\@empty
10090 \else
10091 /ModDate(\@pdfmoddate)%
10092 \fi
10093 /Author(\@pdfauthor)%
10094 \ifx\@pdfproducer\relax
10095 \else
10096 /Producer(\@pdfproducer)%
10097 \fi
10098 /Keywords(\@pdfkeywords)%
10099 \ifx\@pdftrapped\@empty
10100 \else
10101 /Trapped/\@pdftrapped
10102 \fi
10103 \HyInfo@Addons
10104 >>%
10105 }%
10106 \Hy@DisableOption{pdfauthor}%
10107 \Hy@DisableOption{pdftitle}%
10108 \Hy@DisableOption{pdfsubject}%
10109 \Hy@DisableOption{pdfcreator}%
10110 \Hy@DisableOption{addtopdfcreator}%
10111 \Hy@DisableOption{pdfcreationdate}%
10112 \Hy@DisableOption{pdfcreationdate}%
10113 \Hy@DisableOption{pdfmoddate}%
10114 \Hy@DisableOption{pdfproducer}%
10115 \Hy@DisableOption{pdfkeywords}%
10116 \Hy@DisableOption{pdftrapped}%
10117 \Hy@DisableOption{pdfinfo}%
10118 }

10119 \def\PDF@SetupDoc{%
10120 \edef\Hy@temp{%
10121 \ifHy@pdftoolbar\else /HideToolbar true\fi
10122 \ifHy@pdfmenubar\else /HideMenubar true\fi
10123 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10124 \ifHy@pdfwindow /FitWindow true\fi
10125 \ifHy@pdfcenterwindow /CenterWindow true\fi
10126 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10127 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10128 \Hy@UseNameKey{Direction}\@pdfdirection
10129 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10130 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10131 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10132 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10133 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10134 \Hy@UseNameKey{Duplex}\@pdfduplex
10135 \ifx\@pdfpicktraybypdfsize\@empty
10136 \else
10137 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10138 \fi
10139 \ifx\@pdfprintpagerange\@empty
10140 \else
10141 /PrintPageRange[\@pdfprintpagerange]%
10142 \fi

```

```

10143 \ifx\@pdfnumcopies\@empty
10144 \else
10145 /NumCopies \@pdfnumcopies
10146 \fi
10147 }%
10148 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10149 \@pdfm@mark{%
10150 docview<<%
10151 \ifx\@pdfstartpage\@empty
10152 \else
10153 \ifx\@pdfstartview\@empty
10154 \else
10155 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10156 \fi
10157 \fi
10158 \ifx\@baseurl\@empty
10159 \else
10160 /URI<</Base(\Hy@pstringB)>>%
10161 \fi
10162 /PageMode/\@pdfpagemode
10163 \ifx\Hy@temp\@empty
10164 \else
10165 /ViewerPreferences<<\Hy@temp>>%
10166 \fi
10167 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10168 \ifx\@pdflang\relax
10169 \else
10170 /Lang(\@pdflang)%
10171 \fi
10172 >>%
10173 }%
10174 \ifx\@pdfpagescrop\@empty
10175 \else
10176 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10177 \fi
10178 }
10179 </dvipdfm | xetex>
10180 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10181 \def\hyper@pagetransition{%
10182 \ifx\@pdfpagetransition\relax
10183 \else
10184 \ifx\@pdfpagetransition\@empty
10185 \else
10186 \special{pdf:put @thispage %
10187 <</Trans<</S/\@pdfpagetransition>>>>%
10188 }%
10189 \fi
10190 \fi
10191 }

```

\hyper@pageduration


```

10192 \def\hyper@pageduration{%
10193   \ifx\@pdfpageduration\relax
10194   \else
10195     \ifx\@pdfpageduration\@empty
10196     \else
10197       \special{pdf:put @thispage %
10198         <</Dur \@pdfpageduration>>%
10199       }%
10200     \fi
10201   \fi
10202 }

10203 \g@addto@macro\Hy@EveryPageBoxHook{%
10204   \hyper@pagetransition
10205   \hyper@pageduration
10206 }

10207 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method `\pdfpagewidth` and `\pdfpageheight` for setting the paper size.

```

10208 <*dvipdfm>
10209 \AtBeginShipoutFirst{%
10210   \ifHy@setpagesize
10211   \begingroup
10212     \ifnum\mag=\@m
10213     \ifdim\stockwidth>\z@
10214       \ifdim\stockheight>\z@
10215         \special{papersize=\the\stockwidth,\the\stockheight}%
10216       \else
10217         \ifdim\paperwidth>\z@
10218         \ifdim\paperheight>\z@
10219           \special{papersize=\the\paperwidth,\the\paperheight}%
10220         \fi
10221       \fi
10222     \fi
10223   \else
10224     \ifdim\stockwidth=\z@
10225     \ifdim\paperwidth>\z@
10226       \ifdim\paperheight>\z@
10227         \special{papersize=\the\paperwidth,\the\paperheight}%
10228       \fi
10229     \fi
10230   \fi
10231   \fi
10232   \fi
10233 \endgroup
10234 \fi
10235 \Hy@DisableOption{setpagesize}%
10236 }

10237 </dvipdfm>

```

43.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```
10238 <*vtexhtml>
10239 \providecommand*{\XR@ext}{.htm}
10240 \RequirePackage{vtexhtml}
10241 \newif\if@Localurl
10242 \let\PDF@FinishDoc\ltx@empty
10243 \def\PDF@SetupDoc{%
10244   \ifx\@baseurl\@empty
10245   \else
10246     \special{!direct <base href="\@baseurl">}%
10247   \fi
10248 }
10249 \def\@urltype{url}
10250 \def\hyper@link#1#2#3{%
10251   \Hy@VerboseLinkStart{#1}{#2}%
10252   \leavevmode
10253   \special{!direct <a href=%
10254     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10255   #3\Hy@xspace@end
10256   \special{!direct </a>}%
10257 }
10258 \def\hyper@linkurl#1#2{%
10259   \begingroup
10260     \hyper@chars
10261     \leavevmode
10262     \MathBSuppress=1\relax
10263     \special{!direct <a href=%
10264       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10265     #1\Hy@xspace@end
10266     \MathBSuppress=0\relax
10267     \special{!direct </a>}%
10268   \endgroup
10269 }
10270 \def\hyper@linkfile#1#2#3{%
10271   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10272 }
10273 \def\hyper@linkstart#1#2{%
10274   \Hy@VerboseLinkStart{#1}{#2}%
10275   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10276     \@Localurltrue
10277     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10278   \else
10279     \@Localurlfalse
10280   \begingroup
10281     \hyper@chars
10282     \special{!aref \HyperDestNameFilter{#2}}%
10283   \endgroup
10284   \fi
10285 }
10286 \def\hyper@linkend{%
10287   \if@Localurl
```

```

10288 \special{!endaref}%
10289 \else
10290 \special{!direct </a>}%
10291 \fi
10292 }
10293 \Hy@WrapperDef\hyper@anchorstart#1{%
10294 \Hy@SaveLastskip
10295 \Hy@VerboseAnchor{#1}%
10296 \begingroup
10297 \hyper@chars
10298 \special{!aname #1}%
10299 \special{!direct <a name=%
10300 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10301 \endgroup
10302 \Hy@activeanchortrue
10303 }
10304 \def\hyper@anchorend{%
10305 \special{!direct </a>}%
10306 \Hy@activeanchorfalse
10307 \Hy@RestoreLastskip
10308 }
10309 \Hy@WrapperDef\hyper@anchor#1{%
10310 \Hy@SaveLastskip
10311 \Hy@VerboseAnchor{#1}%
10312 \begingroup
10313 \let\protect=\string
10314 \hyper@chars
10315 \leavevmode
10316 \special{!aname #1}%
10317 \special{!direct <a name=%
10318 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10319 \endgroup
10320 \Hy@activeanchortrue
10321 \bgroup\anchor@spot\egroup
10322 \special{!direct </a>}%
10323 \Hy@activeanchorfalse
10324 \Hy@RestoreLastskip
10325 }
10326 \def\@Form[#1]{%
10327 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10328 }
10329 \let\@endForm\ltx@empty
10330 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10331 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10332 }
10333 \def\@TextField[#1]#2{% parameters, label
10334 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10335 }
10336 \def\@CheckBox[#1]#2{% parameters, label
10337 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10338 }
10339 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10340 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10341 }

```

```

10342 \def\@PushButton[#1]#2{% parameters, label
10343 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10344 }
10345 \def\@Reset[#1]#2{%
10346 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10347 }
10348 \def\@Submit[#1]#2{%
10349 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10350 }
10351 \</vtexhtml>
10352 \<*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.

```

10353 \ifcsname mediaheight\endcsname
10354 \ifHy@setpagesize
10355 \providecommand*\VTeXInitMediaSize{%
10356 \ifnum\mag=\@m
10357 \ifdim\stockwidth>\z@
10358 \ifdim\stockheight>\z@
10359 \setlength\mediaheight\stockheight
10360 \setlength\mediawidth\stockwidth
10361 \else
10362 \ifdim\paperwidth>\z@
10363 \ifdim\paperheight>\z@
10364 \setlength\mediaheight\paperheight
10365 \setlength\mediawidth\paperwidth
10366 \fi
10367 \fi
10368 \fi
10369 \else
10370 \ifdim\stockwidth=\z@
10371 \ifdim\paperwidth>\z@
10372 \ifdim\paperheight>\z@
10373 \setlength\mediaheight\paperheight
10374 \setlength\mediawidth\paperwidth
10375 \fi
10376 \fi
10377 \fi
10378 \fi
10379 \fi
10380 }%
10381 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10382 \fi
10383 \Hy@DisableOption{setpagesize}%
10384 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10385 \providecommand*\@pdfview{xyz}
10386 \providecommand*\@pdfborder{0 0 1}
10387 \providecommand*\@pdfborderstyle{}
10388 \let\CurrentBorderColor\@linkbordercolor
10389 \Hy@WrapperDef\hyper@anchor#1{%

```

```

10390 \Hy@SaveLastskip
10391 \Hy@VerboseAnchor{#1}%
10392 \begingroup
10393   \let\protect=\string
10394   \hyper@chars
10395   \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10396 \endgroup
10397 \Hy@activeanchortrue
10398 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10399 \Hy@activeanchorfalse
10400 \Hy@RestoreLastskip
10401 }
10402 \Hy@WrapperDef\hyper@anchorstart#1{%
10403   \Hy@SaveLastskip
10404   \Hy@VerboseAnchor{#1}%
10405   \begingroup
10406     \hyper@chars
10407     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10408   \endgroup
10409   \Hy@activeanchortrue
10410 }
10411 \def\hyper@anchorend{%
10412   \Hy@activeanchorfalse
10413   \Hy@RestoreLastskip
10414 }
10415 \def\@urltype{url}
10416 \def\Hy@undefinedname{UNDEFINED}
10417 \def\hyper@linkstart#1#2{%
10418   \Hy@VerboseLinkStart{#1}{#2}%
10419   \Hy@pstringdef\Hy@pstringURI{#2}%
10420   \expandafter\Hy@colorlink\csname @#1color\endcsname
10421   \ltx@ifundefined{@#1bordercolor}{%
10422     \let\CurrentBorderColor\relax
10423   }{%
10424     \edef\CurrentBorderColor{%
10425       \csname @#1bordercolor\endcsname
10426     }%
10427   }%
10428   \def\Hy@tempa{#1}%
10429   \ifx\Hy@tempa\@urltype
10430     \special{!%
10431       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10432       \ifHy@href@ismap
10433         /IsMap true%
10434       \fi
10435       \Hy@href@nextactionraw
10436       >,%
10437       a=<%
10438       \ifHy@pdfa /F 4\fi
10439       \Hy@setpdfborder
10440       \ifx\CurrentBorderColor\relax
10441         \else
10442         /C [\CurrentBorderColor]%
10443       \fi

```

```

10444 >%
10445 }%
10446 \else
10447 \protected@edef\Hy@testname{#2}%
10448 \ifx\Hy@testname\@empty
10449 \Hy@Warning{%
10450   Empty destination name,\MessageBreak
10451   using ``\Hy@undefinedname'%
10452 }%
10453 \let\Hy@testname\Hy@undefinedname
10454 \fi
10455 \special{!%
10456   aref \expandafter\HyperDestNameFilter
10457   \expandafter{\Hy@testname};%
10458 a=<%
10459   \ifHy@pdfa /F 4\fi
10460   \Hy@setpdfborder
10461   \ifx\CurrentBorderColor\relax
10462   \else
10463     /C [\CurrentBorderColor]%
10464   \fi
10465 >%
10466 }%
10467 \fi
10468 }
10469 \def\hyper@linkend{%
10470 \special{!endaref}%
10471 \Hy@endcolorlink
10472 }
10473 \def\hyper@linkfile#1#2#3{%
10474 \leavevmode
10475 \def\Hy@pstringF{#2}%
10476 \Hy@CleanupFile\Hy@pstringF
10477 \special{!%
10478   aref <%
10479   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10480   f=\Hy@pstringF>#3;%
10481 a=<%
10482   \ifHy@pdfa /F 4\fi
10483   \Hy@setpdfborder
10484   \ifx\@filebordercolor\relax
10485   \else
10486     /C [\@filebordercolor]%
10487   \fi
10488 >%
10489 }%
10490 \Hy@colorlink\@filecolor
10491 #1\Hy@xspace@end
10492 \Hy@endcolorlink
10493 \special{!endaref}%
10494 }
10495 \def\hyper@linkurl#1#2{%
10496 \begingroup
10497 \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

10498 \hyper@chars
10499 \leavevmode
10500 \special{!%
10501   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10502     \ifHy@href@ismap
10503       /IsMap true%
10504     \fi
10505     \Hy@href@nextactionraw
10506   >,%
10507   a=<%
10508     \ifHy@pdfa /F 4\fi
10509     \Hy@setpdfborder
10510     \ifx\@urlbordercolor\relax
10511     \else
10512       /C [\@urlbordercolor]%
10513     \fi
10514   >%
10515 }%
10516 \Hy@colorlink\@urlcolor
10517   #1\Hy@xspace@end
10518 \Hy@endcolorlink
10519 \special{!endaref}%
10520 \endgroup
10521 }
10522 \def\hyper@link#1#2#3{%
10523   \Hy@VerboseLinkStart{#1}{#2}%
10524   \ltx@ifundefined{@#1bordercolor}{%
10525     \let\CurrentBorderColor\relax
10526   }{%
10527     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10528   }%
10529   \leavevmode
10530   \protected@edef\Hy@testname{#2}%
10531   \ifx\Hy@testname\@empty
10532     \Hy@Warning{%
10533       Empty destination name,\MessageBreak
10534       using ``\Hy@undefinedname'%
10535     }%
10536     \let\Hy@testname\Hy@undefinedname
10537   \fi
10538   \special{!%
10539     aref \expandafter\HyperDestNameFilter
10540       \expandafter{\Hy@testname};%
10541     a=<%
10542       \ifHy@pdfa /F 4\fi
10543       \Hy@setpdfborder
10544       \ifx\CurrentBorderColor\relax
10545       \else
10546         /C [\CurrentBorderColor]%
10547       \fi
10548     >%
10549   }%
10550   \expandafter
10551   \Hy@colorlink\csname @#1color\endcsname

```

```

10552   #3\Hy@xspace@end
10553   \Hy@endcolorlink
10554   \special{!endaref}%
10555 }
10556 \def\hyper@image#1#2{%
10557   \hyper@linkurl{#2}{#1}%
10558 }
10559 \def\@hyper@launch run:#1\#2#3{%
10560   \Hy@pstringdef\Hy@pstringF{#1}%
10561   \Hy@pstringdef\Hy@pstringP{#3}%
10562   \leavevmode
10563   \special{!aref %
10564     <u=%
10565       /Type/Action%
10566       /S/Launch%
10567       /F(\Hy@pstringF)%
10568       \Hy@SetNewWindow
10569       \ifx\#3\%
10570       \else
10571         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10572       \fi
10573       \Hy@href@nextactionraw
10574     >,%
10575     a=<%
10576       \ifHy@pdfa /F 4\fi
10577       \Hy@setpdfborder
10578       \ifx\@runbordercolor\relax
10579       \else
10580         /C[\@runbordercolor]%
10581       \fi
10582     >%
10583   }%
10584   \Hy@colorlink\@runcolor
10585   #2\Hy@xspace@end
10586   \Hy@endcolorlink
10587   \special{!endaref}%
10588 }
10589 \def\Acrobatmenu#1#2{%
10590   \EdefEscapeName\Hy@temp@menu{#1}%
10591   \Hy@Acrobatmenu{#1}{#2}{%
10592     \special{!%
10593       aref <u=/S /Named /N /\Hy@temp@menu>;%
10594       a=<%
10595         \ifHy@pdfa /F 4\fi
10596         \Hy@setpdfborder
10597         \ifx\@menubordercolor\relax
10598         \else
10599           /C[\@menubordercolor]%
10600         \fi
10601       >%
10602     }%
10603     \Hy@colorlink\@menucolor
10604     #2\Hy@xspace@end
10605     \Hy@endcolorlink

```



```

10606 \special{!endaref}%
10607 }%
10608 }

```

The following code (transition effects) is made by Alex Kostin.
The code below makes sense for V_TE_X 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

10609 \ifnum\Hy@VTeXversion<702 %
10610 \else
10611 \def\hyper@pagetransition{%
10612 \ifx\@pdfpagetransition\relax
10613 \else
10614 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10615 \else
10616 \hvtex@parse@trans\@pdfpagetransition
10617 \fi
10618 \fi
10619 }%

```

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:

```

10620 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10621 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10622 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10623 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10624 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10625 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10626 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10627 \def\hvtex@par@dimension{/Dm}%
10628 \def\hvtex@par@direction{/Di}%
10629 \def\hvtex@par@duration{/D}%
10630 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```
10631 \def\hvtex@gettoken{%
10632   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10633 }%
```

Notice that tokens in the input buffer must be space delimited.

```
10634 \def\hvtex@gettoken@#1 #2\@nil{%
10635   \edef\hvtex@token{#1}%
10636   \edef\hvtex@buffer{#2}%
10637 }%
10638 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
10639 \let\hvtex@trans@code\@empty
10640 \let\hvtex@param@dimension\@empty
10641 \let\hvtex@param@direction\@empty
10642 \let\hvtex@param@duration\@empty
10643 \let\hvtex@param@motion\@empty
10644 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10645 \hvtex@gettoken
10646 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10647 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10648   \else
10649     \hvtex@gettoken
10650   \fi
10651 \fi
10652 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10653 \hvtex@trans@params
10654 }%
```

Reentrant macro to parse optional parameters.

```
10655 \def\hvtex@trans@params{%
10656   \ifx\hvtex@buffer\@empty
10657   \else
10658     \hvtex@gettoken
10659     \let\hvtex@trans@par\hvtex@token
10660     \ifx\hvtex@buffer\@empty
10661     \else
10662       \hvtex@gettoken
10663       \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_{TEX} special takes it in milliseconds.

```
10664       \let\hvtex@param@duration\hvtex@token
10665     \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10666       \expandafter\edef\expandafter\hvtex@param@motion
10667       \expandafter{\expandafter\@gobble\hvtex@token}%
10668     \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10669      \expandafter\edef\expandafter\hvtex@param@dimension
10670      \expandafter{\expandafter\@gobble\hvtex@token}%
10671      \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).

```
10672      \let\hvtex@param@direction\hvtex@token
10673      \fi\fi\fi\fi
10674      \fi
10675      \fi
10676      \ifx\hvtex@buffer\@empty
10677      \let\next\hvtex@produce@trans
10678      \else
10679      \let\next\hvtex@trans@params
10680      \fi
10681      \next
10682  }%
```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
10683 \def\hvtex@produce@trans{%
10684   \let\vtex@trans@special\@empty
10685   \if S\hvtex@trans@code
10686     \edef\vtex@trans@special{\hvtex@trans@code
10687       \hvtex@param@dimension\hvtex@param@motion}%
10688   \else\if B\hvtex@trans@code
10689     \edef\vtex@trans@special{%
10690       \hvtex@trans@code\hvtex@param@dimension
10691     }%
10692   \else\if X\hvtex@trans@code
10693     \edef\vtex@trans@special{%
10694       \hvtex@trans@code\hvtex@param@motion
10695     }%
10696   \else\if W\hvtex@trans@code
10697     \edef\vtex@trans@special{%
10698       \hvtex@trans@code\hvtex@param@direction
10699     }%
10700   \else\if D\hvtex@trans@code
10701     \let\vtex@trans@special\hvtex@trans@code
10702   \else\if R\hvtex@trans@code
10703     \let\vtex@trans@special\hvtex@trans@code
10704   \else\if G\hvtex@trans@code
10705     \edef\vtex@trans@special{%
10706       \hvtex@trans@code\hvtex@param@direction
10707     }%
10708   \fi\fi\fi\fi\fi\fi
10709   \ifx\vtex@trans@special\@empty
10710   \else
10711     \ifx\hvtex@param@duration\@empty
10712     \else
10713       \setlength{\dimen@}{\hvtex@param@duration\p@}%
10714       \multiply\dimen@\@m
```

I'm not guilty of possible overflow.

```

10715     \edef\vtex@trans@special{%
10716         \vtex@trans@special,\strip@pt\dimen@
10717     }%
10718     \fi

```

And all the mess is just for this.

```

10719     \special{!trans \vtex@trans@special}%
10720     \fi
10721 }%

10722 \def\hyper@pageduration{%
10723     \ifx\@pdfpageduration\relax
10724     \else
10725         \ifx\@pdfpageduration\@empty
10726             \special{!duration-}%
10727         \else
10728             \special{!duration \@pdfpageduration}%
10729         \fi
10730     \fi
10731 }%
10732 \g@addto@macro\Hy@EveryPageBoxHook{%
10733     \hyper@pagetransition
10734     \hyper@pageduration
10735 }%
10736 \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

```

10737 \ifx\@pdfproducer\relax
10738     \def\@pdfproducer{VTeX}%
10739     \ifnum\Hy@VTeXversion>\z@
10740         \count@\VTeXversion
10741         \divide\count@ 100 %
10742         \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10743         \multiply\count@ -100 %
10744         \advance\count@\VTeXversion
10745         \edef\@pdfproducer{%
10746             \@pdfproducer
10747             .\ifnum\count@<10 0\fi\the\count@
10748             \ifx\VTeXOS\@undefined\else
10749                 \ifnum\VTeXOS>0 %
10750                     \ifnum\VTeXOS<6 %
10751                         \space(
10752                         \ifcase\VTeXOS
10753                         \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10754                     \fi

```

```

10755         )%
10756     \fi
10757 \fi
10758 \fi
10759 ,\space
10760 \ifnum\OpMode=\@ne PDF\else PS\fi
10761 \space backend%
10762 \ifx\gexmode\@undefined\else
10763     \ifnum\gexmode>\z@\space with GeX\fi
10764 \fi
10765 }%
10766 \fi
10767 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
a	A uthor	String
b	C rop B ox	String
c	C reator	String
k	K eywords	String
l	P age L ayout	PS
p	P age M ode	PS
r	P roducer	String
s	S ubject	String
t	T itle	String
u	U RI	PS
v	V iew P references	PS

Note: PS objects that are dicts are in `<<<...>>>` (yuck; no choice).

```

10768 \def\PDF@SetupDoc{%
10769     \ifx\@pdfpagescrop\@empty
10770     \else
10771         \special{!pdfinfo b=<\@pdfpagescrop>}%
10772     \fi
10773     \ifx\@pdfstartpage\@empty
10774     \else
10775         \ifx\@pdfstartview\@empty
10776         \else
10777             \special{!onopen Page\@pdfstartpage}%
10778         \fi
10779     \fi
10780     \special{!pdfinfo p=</\@pdfpagemode>}%
10781     \ifx\@baseurl\@empty
10782     \else
10783         \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10784     \fi
10785     \special{!pdfinfo v=<<<%
10786         \ifHy@pdftoolbar\else /HideToolbar true\fi
10787         \ifHy@pdfmenubar\else /HideMenubar true\fi
10788         \ifHy@pdfwindowui\else /HideWindowUI true\fi
10789         \ifHy@pdfwindow /FitWindow true\fi
10790         \ifHy@pdfcenterwindow /CenterWindow true\fi
10791         \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10792         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

10793 \Hy@UseNameKey{Direction}\@pdfdirection
10794 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10795 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10796 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10797 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10798 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10799 \Hy@UseNameKey{Duplex}\@pdfduplex
10800 \ifx\@pdfpicktraybypdfsize\@empty
10801 \else
10802 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10803 \fi
10804 \ifx\@pdfprintpagerange\@empty
10805 \else
10806 /PrintPageRange[\@pdfprintpagerange]%
10807 \fi
10808 \ifx\@pdfnumcopies\@empty
10809 \else
10810 /NumCopies \@pdfnumcopies
10811 \fi
10812 >>>}%
10813 \ifx\@pdfpagelayout\@empty
10814 \else
10815 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10816 \fi
10817 }%
10818 \HyInfo@AddonUnsupportedtrue
10819 \define@key{Hyp}{pdfcreationdate}{%
10820 \Hy@Warning{%
10821 VTeX does not support pdfcreationdate.\MessageBreak
10822 Therefore its setting is ignored%
10823 }%
10824 }
10825 \define@key{Hyp}{pdfmoddate}{%
10826 \Hy@Warning{%
10827 VTeX does not support pdfmoddate.\MessageBreak
10828 Therefore its setting is ignored%
10829 }%
10830 }
10831 \def\PDF@FinishDoc{%
10832 \Hy@UseMaketitleInfos
10833 \HyInfo@TrappedUnsupported
10834 \special{!pdfinfo a=<\@pdfauthor>}%
10835 \special{!pdfinfo t=<\@pdftitle>}%
10836 \special{!pdfinfo s=<\@pdfsubject>}%
10837 \special{!pdfinfo c=<\@pdfcreator>}%
10838 \ifx\@pdfproducer\relax
10839 \else
10840 \special{!pdfinfo r=<\@pdfproducer>}%
10841 \fi
10842 \special{!pdfinfo k=<\@pdfkeywords>}%
10843 \Hy@DisableOption{pdfauthor}%
10844 \Hy@DisableOption{pdftitle}%
10845 \Hy@DisableOption{pdfsubject}%
10846 \Hy@DisableOption{pdfcreator}%

```

```

10847 \Hy@DisableOption{addtopdfcreator}%
10848 \Hy@DisableOption{pdfcreationdate}%
10849 \Hy@DisableOption{pdfcreationdate}%
10850 \Hy@DisableOption{pdfmoddate}%
10851 \Hy@DisableOption{pdfproducer}%
10852 \Hy@DisableOption{pdfkeywords}%
10853 \Hy@DisableOption{pdftrapped}%
10854 \Hy@DisableOption{pdfinfo}%
10855 }
10856 </vtex>

```

43.7 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.

```

10857 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10858 <packageEnd>\providecommand*{\Hy@DistillerDestFix}{%
10859 <*pdfmark | dviwindo>
10860 \def\Hy@DistillerDestFix{%
10861   \begingroup
10862     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10863   \ifnum \@ifundefined{OpMode}{0}{%
10864     \@ifundefined{gexmode}{0}{%
10865       \ifnum\gexmode>0 \OpMode\else 0\fi
10866     }>1 %
10867     \def\x##1{%
10868       \immediate\special{!=##1}%
10869     }%
10870   \fi
10871   \x{%
10872     /product where{%
10873       pop %
10874       product(Distiller)search{%
10875         pop pop pop %
10876         version(.)search{%
10877           exch pop exch pop%
10878           (3011)eq{%
10879             gsave %
10880             newpath 0 0 moveto closepath clip%
10881             /Courier findfont 10 scalefont setfont %
10882             72 72 moveto(.)show %
10883             grestore%
10884           }if%

```

```

10885     }{pop}ifelse%
10886     }{pop}ifelse%
10887     }if%
10888     }%
10889   \endgroup
10890 }
10891 \</pdfmark | dviwindo>

```

43.8 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

```

```

10892 \<pdfmark>
10893 \Hy@breaklinks@unsupported
10894 \def\HyPat@ObjRef{%
10895   \[~{}]+\}%
10896 }
10897 \Hy@WrapperDef\hyper@anchor#1{%
10898   \Hy@SaveLastskip
10899   \Hy@VerboseAnchor{#1}%
10900   \begingroup
10901     \pdfmark[\anchor@spot]{%
10902       pdfmark=/DEST,%
10903       linktype=anchor,%
10904       View=/\@pdfview \@pdfviewparams,%
10905       DestAnchor={#1}%
10906     }%
10907   \endgroup
10908   \Hy@RestoreLastskip
10909 }
10910 \ltx@ifundefined{hyper@anchorstart}{ }\endinput}
10911 \Hy@WrapperDef\hyper@anchorstart#1{%
10912   \Hy@SaveLastskip
10913   \Hy@VerboseAnchor{#1}%
10914   \literalps@out{H.S}%
10915   \Hy@AllowHyphens
10916   \xdef\hyper@currentanchor{#1}%
10917   \Hy@activeanchortrue
10918 }
10919 \def\hyper@anchorend{%
10920   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10921   \pdfmark{%
10922     pdfmark=/DEST,%

```



```

10923 linktype=anchor,%
10924 View=/\@pdfview \@pdfviewparams,%
10925 DestAnchor=\hyper@currentanchor,%
10926 }%
10927 \Hy@activeanchorfalse
10928 \Hy@RestoreLastskip
10929 }
10930 \def\hyper@linkstart#1#2{%
10931 \Hy@VerboseLinkStart{#1}{#2}%
10932 \ifHy@breaklinks
10933 \else
10934 \leavevmode
10935 \ifmmode
10936 \def\Hy@LinkMath{$}%
10937 \else
10938 \let\Hy@LinkMath\ltx@empty
10939 \fi
10940 \Hy@SaveSpaceFactor
10941 \hbox\bgroup
10942 \Hy@RestoreSpaceFactor
10943 \Hy@LinkMath
10944 \fi
10945 \expandafter\Hy@colorlink\csname @#1color\endcsname
10946 \literalps@out{H.S}%
10947 \Hy@AllowHyphens
10948 \xdef\hyper@currentanchor{#2}%
10949 \gdef\hyper@currentlinktype{#1}%
10950 }
10951 \def\hyper@linkend{%
10952 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10953 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10954 \let\Hy@tempcolor\relax
10955 }{%
10956 \edef\Hy@tempcolor{%
10957 \csname @\hyper@currentlinktype bordercolor\endcsname
10958 }%
10959 }%
10960 \pdfmark{%
10961 pdfmark=/ANN,%
10962 linktype=link,%
10963 Subtype=/Link,%
10964 PDFAFlags=4,%
10965 Dest=\hyper@currentanchor,%
10966 AcroHighlight=\@pdfhighlight,%
10967 Border=\@pdfborder,%
10968 BorderStyle=\@pdfborderstyle,%
10969 Color=\Hy@tempcolor,%
10970 Raw=H.B%
10971 }%
10972 \Hy@endcolorlink
10973 \ifHy@breaklinks
10974 \else
10975 \Hy@LinkMath
10976 \Hy@SaveSpaceFactor

```

```

10977 \egroup
10978 \Hy@RestoreSpaceFactor
10979 \fi
10980 }

```

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.

```

10981 \begingroup
10982 \catcode`P=12 %
10983 \catcode`T=12 %
10984 \lowercase{\endgroup
10985 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10986 }
10987 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10988 \def\hyper@pagetransition{%
10989 \ifx\@pdfpagetransition\relax
10990 \else
10991 \ifx\@pdfpagetransition\@empty
10992 % 1. Does an old entry have to be deleted?
10993 % 2. If 1=yes, how to delete?
10994 \else
10995 \pdfmark{%
10996 pdfmark=/PUT,%
10997 Raw={%
10998 \string{ThisPage\string}%
10999 <</Trans << /S /\@pdfpagetransition\space >> >>%
11000 }%
11001 }%
11002 \fi
11003 \fi
11004 }

```

`\hyper@pageduration`

```

11005 \def\hyper@pageduration{%
11006 \ifx\@pdfpageduration\relax
11007 \else
11008 \ifx\@pdfpageduration\@empty
11009 % 1. Does an old entry have to be deleted?
11010 % 2. If 1=yes, how to delete?
11011 \else
11012 \pdfmark{%
11013 pdfmark=/PUT,%
11014 Raw={%
11015 \string{ThisPage\string}%
11016 <</Dur \@pdfpageduration>>>%
11017 }%
11018 }%
11019 \fi
11020 \fi
11021 }

```

```

11022 \g@addto@macro\Hy@EveryPageBoxHook{%
11023   \hyper@pagetransition
11024   \hyper@pageduration
11025 }

11026 \def\hyper@image#1#2{%
11027   \hyper@linkurl{#2}{#1}%
11028 }

11029 \def\Hy@undefinedname{UNDEFINED}
11030 \def\hyper@link#1#2#3{%
11031   \Hy@VerboseLinkStart{#1}{#2}%
11032   \ltx@ifundefined{@#1bordercolor}{%
11033     \let\Hy@tempcolor\relax
11034   }{%
11035     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11036   }%
11037   \begingroup
11038     \protected@edef\Hy@testname{#2}%
11039     \ifx\Hy@testname\@empty
11040       \Hy@Warning{%
11041         Empty destination name,\MessageBreak
11042         using ``\Hy@undefinedname'%
11043       }%
11044       \let\Hy@testname\Hy@undefinedname
11045     \fi
11046     \pdfmark[{#3}]{%
11047       Color=\Hy@tempcolor,%
11048       linktype={#1},%
11049       AcroHighlight=\@pdfhighlight,%
11050       Border=\@pdfborder,%
11051       BorderStyle=\@pdfborderstyle,%
11052       pdfmark=/ANN,%
11053       Subtype=/Link,%
11054       PDFAFlags=4,%
11055       Dest=\Hy@testname
11056     }%
11057   \endgroup
11058 }

11059 \newtoks\pdf@docset
11060 \def\PDF@FinishDoc{%
11061   \Hy@UseMaketitleInfos
11062   \Hy@Info@GenerateAddons
11063   \let\Hy@temp\@empty
11064   \ifx\@pdfcreationdate\@empty
11065   \else
11066     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11067   \fi
11068   \ifx\@pdfmoddate\@empty
11069   \else
11070     \expandafter\def\expandafter\Hy@temp\expandafter{%
11071       \Hy@temp
11072       ModDate=\@pdfmoddate,%
11073     }%
11074   \fi
11075   \ifx\@pdfproducer\relax

```

```

11076 \else
11077 \expandafter\def\expandafter\Hy@temp\expandafter{%
11078 \Hy@temp
11079 Producer=\@pdfproducer,%
11080 }%
11081 \fi
11082 \expandafter
11083 \pdfmark\expandafter{%
11084 \Hy@temp
11085 pdfmark=/DOCINFO,%
11086 Title=\@pdftitle,%
11087 Subject=\@pdfsubject,%
11088 Creator=\@pdfcreator,%
11089 Author=\@pdfauthor,%
11090 Keywords=\@pdfkeywords,%
11091 Trapped=\@pdftrapped
11092 }%
11093 \ifx\HyInfo@Addons\@empty
11094 \else
11095 \pdfmark{%
11096 pdfmark=/DOCINFO,%
11097 Raw={\HyInfo@Addons}%
11098 }%
11099 \fi
11100 \Hy@DisableOption{pdfauthor}%
11101 \Hy@DisableOption{pdftitle}%
11102 \Hy@DisableOption{pdfsubject}%
11103 \Hy@DisableOption{pdfcreator}%
11104 \Hy@DisableOption{addtopdfcreator}%
11105 \Hy@DisableOption{pdfcreationdate}%
11106 \Hy@DisableOption{pdfcreationdate}%
11107 \Hy@DisableOption{pdfmoddate}%
11108 \Hy@DisableOption{pdfproducer}%
11109 \Hy@DisableOption{pdfkeywords}%
11110 \Hy@DisableOption{pdftrapped}%
11111 \Hy@DisableOption{pdfinfo}%
11112 }
11113 \def\PDF@SetupDoc{%
11114 \def\Hy@temp{}%
11115 \ifx\@pdfstartpage\@empty
11116 \else
11117 \ifx\@pdfstartview\@empty
11118 \else
11119 \edef\Hy@temp{%
11120 ,Page=\@pdfstartpage
11121 ,View=\@pdfstartview
11122 }%
11123 \fi
11124 \fi
11125 \edef\Hy@temp{%
11126 \noexpand\pdfmark{%
11127 pdfmark=/DOCVIEW,%
11128 PageMode=/\@pdfpagemode
11129 \Hy@temp

```

```

11130 }%
11131 }%
11132 \Hy@temp
11133 \ifx\@pdfpagescrop\@empty
11134 \else
11135 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11136 \fi
11137 \edef\Hy@temp{%
11138 \ifHy@pdftoolbar\else /HideToolbar true\fi
11139 \ifHy@pdfmenubar\else /HideMenubar true\fi
11140 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11141 \ifHy@pdffitwindow /FitWindow true\fi
11142 \ifHy@pdfcenterwindow /CenterWindow true\fi
11143 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11144 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11145 \Hy@UseNameKey{Direction}\@pdfdirection
11146 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11147 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11148 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11149 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11150 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11151 \Hy@UseNameKey{Duplex}\@pdfduplex
11152 \ifx\@pdfpicktraybypdfsize\@empty
11153 \else
11154 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11155 \fi
11156 \ifx\@pdfprintpagerange\@empty
11157 \else
11158 /PrintPageRange[\@pdfprintpagerange]%
11159 \fi
11160 \ifx\@pdfnumcopies\@empty
11161 \else
11162 /NumCopies \@pdfnumcopies
11163 \fi
11164 }%
11165 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11166 \pdfmark{%
11167 pdfmark=/PUT,%
11168 Raw={%
11169 \string{Catalog\string}<<%
11170 \ifx\Hy@temp\@empty
11171 \else
11172 /ViewerPreferences<<\Hy@temp>>%
11173 \fi
11174 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11175 \ifx\@pdflang\relax
11176 \else
11177 /Lang(\@pdflang)%
11178 \fi
11179 \ifx\@baseurl\@empty
11180 \else
11181 /URI<</Base(\Hy@pstringB)>>%
11182 \fi
11183 >>%

```

```

11184 }%
11185 }%
11186 }
11187 </pdfmark>
11188 <*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.

```

11189 \newif\ifHy@pdfmarkerror
11190 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11191 \def\pdfmark@[#1]#2{%
11192   \Hy@pdfmarkerrorfalse
11193   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11194   \@processme
11195   \let\pdf@type\relax
11196   \let\pdf@objdef\ltx@empty
11197   \kvsetkeys{PDF}{#2}%
11198   \ifHy@pdfmarkerror
11199   \else
11200     \ifx\pdf@type\relax
11201       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11202       \ifx\\#1\\%
11203         \else
11204           \pdf@rect{#1}%
11205         \fi
11206       \else
11207         \ifx\\#1\\%
11208           \literalps@out{%
11209             [%
11210             \ifx\pdf@objdef\ltx@empty
11211             \else
11212               /_objdef\string{\pdf@objdef\string}%
11213             \fi
11214             \the\pdf@toks\space\pdf@type\space pdfmark%
11215             }%
11216           \else
11217             \ltx@ifundefined{@\pdf@linktype color}{%
11218               \Hy@colorlink\@linkcolor
11219             }{%
11220               \expandafter\Hy@colorlink
11221               \csname @\pdf@linktype color\endcsname
11222             }%
11223             \pdf@rect{#1}%
11224           \literalps@out{%
11225             [%
11226             \ifx\pdf@objdef\ltx@empty
11227             \else
11228               /_objdef\string{\pdf@objdef\string}%
11229             \fi
11230             \the\pdf@toks\space\pdf@type\space pdfmark%

```

```

11231      }%
11232      \Hy@endcolorlink
11233      \fi
11234  \fi
11235  \fi
11236 }

```

The complicated bit is working out the right enclosing rectangle of some piece of T_EX text, needed by the /Rect key. This solution originates with Toby Thain (toby@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}

```

```

11237 \newsavebox{\pdf@box}
11238 \providecommand*{\Hy@setouterhbox}{\sbox}
11239 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11240 \def\Hy@DEST{/DEST}
11241 \def\pdf@rect#1{%
11242   \begingroup
11243   \chardef\x=1 %
11244   \def\Hy@temp{#1}%
11245   \ifx\Hy@temp\ltx@empty
11246     \chardef\x=0 %
11247   \else
11248     \def\y{\anchor@spot}%
11249     \ifx\Hy@temp\y
11250       \def\y{\relax}%
11251     \ifx\anchor@spot\y
11252       \chardef\x=0 %
11253     \fi
11254   \fi
11255   \fi
11256 \expandafter\endgroup
11257 \ifcase\x
11258   \literalps@out{H.S}%
11259   \literalps@out{H.R}%
11260 \else
11261   \leavevmode
11262   \Hy@SaveSpaceFactor
11263   \ifmmode
11264     \def\Hy@LinkMath{$}%
11265   \else
11266     \let\Hy@LinkMath\ltx@empty
11267   \fi
11268   \ifHy@breaklinks
11269     \Hy@setouterhbox\pdf@box{%
11270     \Hy@RestoreSpaceFactor

```

```

11271 \Hy@LinkMath
11272 \Hy@AllowHyphens#1\Hy@xspace@end
11273 \Hy@LinkMath
11274 \Hy@SaveSpaceFactor
11275 }%
11276 \else
11277 \sbox\pdf@box{%
11278 \Hy@RestoreSpaceFactor
11279 \Hy@LinkMath
11280 #1\Hy@xspace@end
11281 \Hy@LinkMath
11282 \Hy@SaveSpaceFactor
11283 }%
11284 \fi
11285 \dimen@ \ht\pdf@box
11286 \ifdim\dp\pdf@box=\z@
11287 \literalps@out{H.S}%
11288 \else
11289 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11290 \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...).

```

11291 \ifHy@breaklinks
11292 \ifhmode
11293 \Hy@breaklinksunhbox\pdf@box
11294 \else
11295 \box\pdf@box
11296 \fi
11297 \else
11298 \expandafter\box\pdf@box
11299 \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

11300 \ifdim\dimen@=\z@
11301 \literalps@out{H.R}%
11302 \else
11303 \raise\dimen@\hbox{\literalps@out{H.R}}%
11304 \fi
11305 \Hy@RestoreSpaceFactor
11306 \fi
11307 \ifx\pdf@type\Hy@DEST
11308 \else
11309 \pdf@addtoksx{H.B}%
11310 \fi
11311 }

```

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.


```

11312 \newtoks\pdf@toks
11313 \newtoks\pdf@defaulttoks
11314 \pdf@defaulttoks={} %
11315 \def\pdf@addtoks#1#2{%
11316   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}} %
11317   \@processme
11318 }
11319 \def\pdf@addtoksx#1{%
11320   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}} %
11321   \@processme
11322 }
11323 \def\PDFdefaults#1{%
11324   \pdf@defaulttoks={#1} %
11325 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11326 % what is the type of pdfmark?
11327 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11328 % what is the link type?
11329 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11330 \def\pdf@linktype{link}
11331 % named object?
11332 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11333 \let\pdf@objdef\ltx@empty
11334 % parameter is a stream of PDF
11335 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11336 % parameter is a name
11337 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11338 % parameter is a array
11339 \define@key{PDF}{Border}{%
11340   \edef\Hy@temp{#1}%
11341   \ifx\Hy@temp\@empty
11342     \else
11343       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11344     \fi
11345 }
11346 \let\Hy@BorderArrayPatch\@empty
11347 % parameter is a dictionary
11348 \define@key{PDF}{BorderStyle}{%
11349   \edef\Hy@temp{#1}%
11350   \ifx\Hy@temp\@empty
11351     \else
11352       \pdf@addtoks{<<#1>>}{BS}%
11353     \fi
11354 }
11355 % parameter is a array
11356 \define@key{PDF}{Color}{%
11357   \ifx\relax#1\relax
11358     \else
11359       \pdf@addtoks{[#1]}{Color}% hash-ok
11360     \fi
11361 }
11362 % parameter is a string
11363 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11364 % parameter is a integer

```

```

11365 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11366 % parameter is a array
11367 \define@key{PDF}{CropBox}{\pdf@addtoks{#1}{CropBox}}% hash-ok
11368 % parameter is a string
11369 \define@key{PDF}{DOSFile}{\pdf@addtoks{#1}{DOSFile}}
11370 % parameter is a string or file
11371 \define@key{PDF}{DataSource}{\pdf@addtoks{#1}{DataSource}}
11372 % parameter is a destination
11373 \define@key{PDF}{Dest}{%
11374   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11375   \ifx\Hy@pstringDest\@empty
11376     \Hy@pdfmarkerrortrue
11377     \Hy@Warning{Destination with empty name ignored}%
11378   \else
11379     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11380   \fi
11381 }
11382 \define@key{PDF}{DestAnchor}{%
11383   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11384   \ifx\Hy@pstringDest\@empty
11385     \Hy@pdfmarkerrortrue
11386     \Hy@Warning{Destination with empty name ignored}%
11387   \else
11388     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11389   \fi
11390 }
11391 % parameter is a string
11392 \define@key{PDF}{Dir}{\pdf@addtoks{#1}{Dir}}
11393 % parameter is a string
11394 \define@key{PDF}{File}{\pdf@addtoks{#1}{File}}
11395 % parameter is a int
11396 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11397 \define@key{PDF}{PDFAFlags}{%
11398   \ifHy@pdfa
11399     \pdf@addtoks{#1}{F}%
11400   \fi
11401 }
11402 % parameter is a name
11403 \define@key{PDF}{AcroHighlight}{%
11404   \begingroup
11405     \edef\x{#1}%
11406     \expandafter\endgroup\ifx\x\@empty
11407   \else
11408     \pdf@addtoks{#1}{H}%
11409   \fi
11410 }
11411 % parameter is a string
11412 \define@key{PDF}{ID}{\pdf@addtoks{#1}{ID}}% hash-ok
11413 % parameter is a string
11414 \define@key{PDF}{MacFile}{\pdf@addtoks{#1}{MacFile}}
11415 % parameter is a string
11416 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11417 % parameter is a string
11418 \define@key{PDF}{Op}{\pdf@addtoks{#1}{Op}}

```

```

11419 % parameter is a Boolean
11420 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11421 % parameter is a integer or name
11422 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11423 % parameter is a name
11424 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11425 % parameter is a string
11426 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11427 % parameter is a array
11428 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
11429 % parameter is a integer
11430 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11431 % parameter is a name
11432 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11433 % parameter is a string
11434 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11435 % parameter is a string
11436 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11437 % parameter is a string
11438 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11439 % parameter is an array
11440 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
11441 % parameter is a string
11442 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}
These are the keys used in the DOCINFO section.
11443 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11444 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11445 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11446 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11447 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11448 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11449 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11450 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11451 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11452 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11453 \define@key{PDF}{Trapped}{%
11454   \edef\Hy@temp{#1}%
11455   \ifx\Hy@temp\@empty
11456   \else
11457     \pdf@addtoks{/#1}{Trapped}%
11458   \fi
11459 }
11460
11461 </pdfmarkbase>
11462 <*pdfmark>
11463 \def\Acrobatmenu#1#2{%
11464   \EdefEscapeName\Hy@temp@menu{#1}%
11465   \Hy@Acrobatmenu{#1}{#2}{%
11466     \pdfmark[{#2}]{%
11467       linktype=menu,%
11468       pdfmark=/ANN,%
11469       AcroHighlight=\@pdfhighlight,%
11470       Border=\@pdfborder,%
11471       BorderStyle=\@pdfborderstyle,%

```

```

11472     Color=\@menubordercolor,%
11473     Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11474     Subtype=/Link,%
11475     PDFAFlags=4%
11476   }%
11477 }%
11478 }

```

And now for some useful examples:

```

11479 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}%
11480 \def\PDFNextPage@[#1]#2{%
11481   \pdfmark[#2]{%
11482     #1,%
11483     Border=\@pdfborder,%
11484     BorderStyle=\@pdfborderstyle,%
11485     Color=.2 .1 .5,%
11486     pdfmark=/ANN,%
11487     Subtype=/Link,%
11488     PDFAFlags=4,%
11489     Page=/Next%
11490   }%
11491 }
11492 \def\PDFPreviousPage{%
11493   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11494 }
11495 \def\PDFPreviousPage@[#1]#2{%
11496   \pdfmark[#2]{%
11497     #1,%
11498     Border=\@pdfborder,%
11499     BorderStyle=\@pdfborderstyle,%
11500     Color=.4 .4 .1,%
11501     pdfmark=/ANN,%
11502     Subtype=/Link,%
11503     PDFAFlags=4,%
11504     Page=/Prev%
11505   }%
11506 }
11507 \def\PDFOpen#1{%
11508   \pdfmark{#1,pdfmark=/DOCVIEW}%
11509 }

```

This will only work if you use Distiller 2.1 or higher.

```

11510 \def\hyper@linkurl#1#2{%
11511   \begingroup
11512   \Hy@pstringdef\Hy@pstringURI{#2}%
11513   \hyper@chars
11514   \leavevmode
11515   \pdfmark[#1]{%
11516     pdfmark=/ANN,%
11517     linktype=url,%
11518     AcroHighlight=\@pdfhighlight,%
11519     Border=\@pdfborder,%
11520     BorderStyle=\@pdfborderstyle,%
11521     Color=\@urlbordercolor,%
11522     Action={<<%

```

```

11523     /Subtype/URI%
11524     /URI(\Hy@pstringURI)%
11525     \ifHy@href@ismap
11526     /IsMap true%
11527     \fi
11528     >>},%
11529     Subtype=/Link,%
11530     PDFAFlags=4%
11531 }%
11532 \endgroup
11533 }
11534 \def\hyper@linkfile#1#2#3{%
11535 \begingroup
11536 \def\Hy@pstringF{#2}%
11537 \Hy@CleanupFile\Hy@pstringF
11538 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11539 \Hy@pstringdef\Hy@pstringD{#3}%
11540 \Hy@MakeRemoteAction
11541 \leavevmode
11542 \pdfmark[{#1}]{%
11543 pdfmark=/ANN,%
11544 Subtype=/Link,%
11545 PDFAFlags=4,%
11546 AcroHighlight=\@pdfhighlight,%
11547 Border=\@pdfborder,%
11548 BorderStyle=\@pdfborderstyle,%
11549 linktype=file,%
11550 Color=\@filebordercolor,%
11551 Action={%
11552 <<%
11553 /S/GoToR%
11554 \Hy@SetNewWindow
11555 /F(\Hy@pstringF)%
11556 /D%
11557 \ifx\#3\%
11558 [\Hy@href@page\@pdfremotestartview]%
11559 \else
11560 (\Hy@pstringD)cvn%
11561 \fi
11562 \Hy@href@nextactionraw
11563 >>%
11564 }%
11565 }%
11566 \endgroup
11567 }
11568 \def\@hyper@launch run:#1\#2#3{%
11569 \begingroup
11570 \Hy@pstringdef\Hy@pstringF{#1}%
11571 \Hy@pstringdef\Hy@pstringP{#3}%
11572 \leavevmode
11573 \pdfmark[{#2}]{%
11574 pdfmark=/ANN,%
11575 Subtype=/Link,%
11576 PDFAFlags=4,%

```

```

11577   AcroHighlight=\@pdfhighlight,%
11578   Border=\@pdfborder,%
11579   BorderStyle=\@pdfborderstyle,%
11580   linktype=run,%
11581   Color=\@runbordercolor,%
11582   Action={%
11583     <<%
11584       /S/Launch%
11585       \Hy@SetNewWindow
11586       /F(\Hy@pstringF)%
11587       \ifx\#3\%
11588       \else
11589       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11590       \fi
11591       \Hy@href@nextactionraw
11592     >>%
11593   }%
11594 }%
11595 \endgroup
11596 }
11597 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

43.9 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.

```

11598 (*dvips)
11599 \providecommand*\XR@ext}{pdf}
11600 \let\Hy@raisedlink\ltx@empty
11601 \def\litalps@out#1{\special{ps:SDict begin #1 end}}%
11602 \def\headerps@out#1{\special{! #1}}%
11603 \input{pdfmark.def}%
11604 \ifx\@pdfproducer\relax
11605   \def\@pdfproducer{dvips + Distiller}%
11606 \fi
11607 \providecommand*\@pdfborder{0 0 1}
11608 \providecommand*\@pdfborderstyle{}
11609 \providecommand*\@pdfview{XYZ}
11610 \providecommand*\@pdfviewparams{ H.V}
11611 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11612 \g@addto@macro\Hy@FirstPageHook{%
11613   \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.

```
11614 /DvipsToPDF{72.27 mul Resolution div} def%
11615 /PDFToDvips{72.27 div Resolution mul} def%
11616 /BPToDvips{72 div Resolution mul}def
```

The values inside the /Border 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.

Note GhostScript changed its behaviour here and later versions do not need this scaling, so test the PostScript interpreter is GhostScript and if so check its version.

If using gs and release > 9.27 no-op, otherwise patch.

```
11617 product (Ghostscript) search {pop pop pop revision 927 gt}%
11618 {pop false} ifelse%
11619 {%
11620 /BorderArrayPatch{} def%
11621 }%
11622 {%
11623 /BorderArrayPatch{%
11624 [exch{%
11625 dup dup type/integertype eq exch type/realtype eq or%
11626 {BPToDvips}if%
11627 }forall]%
11628 }def%
11629 } ifelse
```

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.

```
11630 /HyperBorder {1 PDFToDvips} def%
11631 /H.V {pdf@hoff pdf@voff null} def%
11632 /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

```
11633 /H.S {%
11634 currentpoint %
11635 HyperBorder add /pdf@lly exch def %
11636 dup DvipsToPDF 72 add /pdf@hoff exch def %
11637 HyperBorder sub /pdf@llx exch def%
11638 } def%
```

The calculation of upper left y is done without raising the point in T_EX, 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

```
11639 /H.L {%
```

```

11640 2 sub dup%
11641 /HyperBasePt exch def %
11642 PDFToDvips /HyperBaseDvips exch def %
11643 currentpoint %
11644 HyperBaseDvips sub /pdf@ury exch def%
11645 /pdf@urx exch def%
11646 } def%
11647 /H.A {%
11648 H.L %
11649 % | /pdf@voff| = the distance from the top of the page to a point
11650 % | \baselineskip| above the current point in PDF coordinates
11651 currentpoint exch pop %
11652 vsize 72 sub exch DvipsToPDF %
11653 HyperBasePt sub % baseline skip
11654 sub /pdf@voff exch def%
11655 } def%
11656 /H.R {%
11657 currentpoint %
11658 HyperBorder sub /pdf@ury exch def %
11659 HyperBorder add /pdf@urx exch def %
11660 % | /pdf@voff| = the distance from the top of the page to the current point, in
11661 % PDF coordinates
11662 currentpoint exch pop vsize 72 sub %
11663 exch DvipsToPDF sub /pdf@voff exch def%
11664 } def%
11665 }%
11666 }
11667 \AtBeginShipoutFirst{%
11668 \ifHy@setpagesize
11669 \begingroup
11670 \ifnum\mag=\@m
11671 \ifdim\stockwidth>\z@
11672 \ifdim\stockheight>\z@
11673 \special{papersize=\the\stockwidth,\the\stockheight}%
11674 \else
11675 \ifdim\paperwidth>\z@
11676 \ifdim\paperheight>\z@
11677 \special{papersize=\the\paperwidth,\the\paperheight}%
11678 \fi
11679 \fi
11680 \fi
11681 \else
11682 \ifdim\stockwidth=\z@
11683 \ifdim\paperwidth>\z@
11684 \ifdim\paperheight>\z@
11685 \special{papersize=\the\paperwidth,\the\paperheight}%
11686 \fi
11687 \fi
11688 \fi
11689 \fi
11690 \fi
11691 \endgroup
11692 \fi
11693 \Hy@DisableOption{setpagesize}%

```



```

11694 }
11695 \def\setpdfinkmargin#1{%
11696   \begingroup
11697     \setlength{\dimen@}{#1}%
11698     \literalps@out{%
11699       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11700     }%
11701   \endgroup
11702 }
11703 </dvips>

```

43.10 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.

```

11704 (*vtexpdfmark)
11705 \providecommand*\XR@ext}{pdf}
11706 \let\Hy@raisedlink\ltx@empty
11707 \def\literalps@out#1{\special{pS:#1}}%
11708 \def\headerps@out#1{\immediate\special{pS:#1}}%
11709 \input{pdfmark.def}%
11710 \ifx\@pdfproducer\relax
11711   \ifnum\OpMode=\@ne
11712     \def\@pdfproducer{VTeX}%
11713   \else
11714     \def\@pdfproducer{VTeX + Distiller}%
11715   \fi
11716 \fi
11717 \providecommand*\@pdfborder{0 0 1}
11718 \providecommand*\@pdfborderstyle{}
11719 \providecommand*\@pdfview{XYZ}
11720 \providecommand*\@pdfviewparams{ H.V}
11721 \g@addto@macro\Hy@FirstPageHook{%
11722   \headerps@out{%
11723     /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.

```

11724   /HyperBorder {1} def%
11725   /H.V {pdf@hoff pdf@voff null} def%
11726   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11727   /H.S {%
11728     currentpoint %
11729     HyperBorder sub%
11730     /pdf@lly exch def %
11731     dup 72 add /pdf@hoff exch def %

```

```

11732   HyperBorder sub%
11733   /pdf@llx exch def%
11734 } def%

The  $x$  and  $y$  coordinates of the current point, minus the \baselineskip:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$ 

11735   /H.L {%
11736   2 sub%
11737   /HyperBasePt exch def %
11738   currentpoint %
11739   HyperBasePt add HyperBorder add%
11740   /pdf@ury exch def %
11741   HyperBorder add%
11742   /pdf@urx exch def%
11743 } def%
11744   /H.A {%
11745   H.L %
11746   currentpoint exch pop %
11747   vsize 72 sub exch %
11748   HyperBasePt add add%
11749   /pdf@voff exch def%
11750 } def%

 $\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$ 

11751   /H.R {%
11752   currentpoint %
11753   HyperBorder add%
11754   /pdf@ury exch def %
11755   HyperBorder add%
11756   /pdf@urx exch def %
11757   currentpoint exch pop vsize 72 sub add%
11758   /pdf@voff exch def%
11759 } def%
11760 }%
11761 }

11762 \def\setpdfinkmargin#1{%
11763   \begingroup
11764   \setlength{\dimen@}{#1}%
11765   \literalps@out{%
11766     /HyperBorder{\strip@pt\dimen@}def%
11767   }%
11768   \endgroup
11769 }

11770 </vtxpdfmark>

```

43.11 Textures

```

11771 <*textures>
11772 \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.

```
11773 \begingroup
11774 \obeylines %
11775 \gdef\Hy@ps@CR{\noexpand
11776 }%
11777 \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`.

```
11778 \def\literalps@out#1{%
11779 \special{postscript 0 0 transform}}%
11780 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11781 }%
11782 %
```

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.

```
11783 \def\headerps@out#1{%
11784 \special{%
11785 prepostscript TeXdict begin\Hy@ps@CR
11786 #1\Hy@ps@CR
11787 end%
11788 }%
11789 }%
11790 %
```

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.

```
11791 \g@addto@macro\Hy@FirstPageHook{%
11792 \headerps@out{%
11793 /betterpdfmark {%
11794 systemdict begin %
11795 dup /BP eq%
11796 {cleartomark gsave nulldevice []%
11797 {dup /EP eq%
11798 {cleartomark cleartomark grestore}}%
11799 {cleartomark}}%
11800 ifelse%
11801 }ifelse %
```

```

11802     end%
11803   }def\Hy@ps@CR
11804   ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
11805 }% end of \headerps@out
11806 }% end of \AtBeginShipoutFirst
11807 %
11808 \input{pdfmark.def}%
11809 %
11810 \ifx\@pdfproducer\relax
11811   \def\@pdfproducer{Textures + Distiller}%
11812 \fi
11813 \providecommand*\@pdfborder{0 0 1}
11814 \providecommand*\@pdfborderstyle{}
11815 \providecommand*\@pdfview{XYZ}
11816 \providecommand*\@pdfviewparams{ H.V}
11817 %

```

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 .

```

11818 \Hy@AtBeginDocument{%
11819   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11820   /vsize {\Hy@pageheight} def%
11821   /DvipsToPDF {} def%
11822   /PDFToDvips {} def%
11823   /BPToDvips {} def%
11824   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11825   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11826   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11827   /H.S {%
11828     currentpoint %
11829     HyperBorder add /pdf@lly exch def %
11830     dup DvipsToPDF 72 add /pdf@hoff exch def %
11831     HyperBorder sub /pdf@llx exch def%
11832   } def\Hy@ps@CR
11833   /H.L {%
11834     2 sub %
11835     PDFToDvips /HyperBase exch def %
11836     currentpoint %
11837     HyperBase sub /pdf@ury exch def%
11838     /pdf@urx exch def%
11839   } def\Hy@ps@CR
11840   /H.A {%
11841     H.L %
11842     currentpoint exch pop %
11843     vsize 72 sub exch DvipsToPDF %
11844     HyperBase sub % baseline skip
11845     sub /pdf@voff exch def%
11846   } def\Hy@ps@CR

```

```

11847 /H.R {%
11848   currentpoint %
11849   HyperBorder sub /pdf@ury exch def %
11850   HyperBorder add /pdf@urx exch def %
11851   currentpoint exch pop vsize 72 sub %
11852   exch DvipsToPDF sub /pdf@voff exch def%
11853 } def\Hy@ps@CR
11854 }%
11855 }

11856 \def\setpdfinkmargin#1{%
11857   \begingroup
11858   \setlength{\dimen@}{#1}%
11859   \literalps@out{%
11860     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11861   }%
11862   \endgroup
11863 }

11864 \Hy@AtBeginDocument{%
11865   \ifHy@colorlinks
11866     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11867   \fi
11868 }

```

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.

```

11869 \expandafter\let\expandafter\keepPDF@SetupDoc
11870   \csname PDF@SetupDoc\endcsname
11871 \def\PDF@SetupDoc{%
11872   \ifx\@baseurl\@empty
11873   \else
11874     \special{html:<base href="\@baseurl">}%
11875   \fi
11876   \keepPDF@SetupDoc
11877 }

11878 \Hy@WrapperDef\hyper@anchor#1{%
11879   \Hy@SaveLastskip
11880   \Hy@VerboseAnchor{#1}%
11881   \begingroup
11882     \let\protect=\string
11883     \special{html:<a name=%
11884       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11885   \endgroup
11886   \Hy@activeanchortrue
11887   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11888   \special{html:</a>}%
11889   \Hy@activeanchorfalse
11890   \Hy@RestoreLastskip
11891 }

11892 \Hy@WrapperDef\hyper@anchorstart#1{%
11893   \Hy@SaveLastskip
11894   \Hy@VerboseAnchor{#1}%
11895   \begingroup

```

```

11896 \hyper@chars
11897 \special{html:<a name=%
11898 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11899 \endgroup
11900 \Hy@activeanchortrue
11901 }
11902 \def\hyper@anchorend{%
11903 \special{html:</a>}%
11904 \Hy@activeanchorfalse
11905 \Hy@RestoreLastskip
11906 }
11907 \def\@urltype{url}
11908 \def\hyper@linkstart#1#2{%
11909 \Hy@VerboseLinkStart{#1}{#2}%
11910 \expandafter\Hy@colorlink\csname @#1color\endcsname
11911 \def\Hy@tempa{#1}%
11912 \ifx\Hy@tempa\@urltype
11913 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11914 \else
11915 \begingroup
11916 \hyper@chars
11917 \special{%
11918 html:<a href=%
11919 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11920 }%
11921 \endgroup
11922 \fi
11923 }
11924 \def\hyper@linkend{%
11925 \special{html:</a>}%
11926 \Hy@endcolorlink
11927 }
11928 \def\hyper@linkfile#1#2#3{%
11929 \hyper@linkurl{#1}{%
11930 \Hy@linkfileprefix#2\ifx\#3\\ \else\#3\fi
11931 }%
11932 }
11933 \def\hyper@linkurl#1#2{%
11934 \leavevmode
11935 \ifHy@raiselinks
11936 \Hy@SaveSpaceFactor
11937 \Hy@SaveSavedSpaceFactor
11938 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11939 \Hy@RestoreSavedSpaceFactor
11940 \@linkdim\dp\@tempboxa
11941 \lower\@linkdim\hbox{%
11942 \hyper@chars
11943 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11944 }%
11945 \Hy@colorlink\@urlcolor
11946 \Hy@RestoreSpaceFactor
11947 #1\Hy@xspace@end
11948 \Hy@SaveSpaceFactor
11949 \@linkdim\ht\@tempboxa

```

```

11950 \advance\@linkdim by -6.5\p@
11951 \raise\@linkdim\hbox{\special{html:</a>}}}%
11952 \Hy@endcolorlink
11953 \Hy@RestoreSpaceFactor
11954 \else
11955 \begingroup
11956 \hyper@chars
11957 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11958 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11959 \special{html:</a>}}}%
11960 \Hy@endcolorlink
11961 \endgroup
11962 \fi
11963 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

11964 \def\hyper@link#1#2#3{%
11965 \Hy@VerboseLinkStart{#1}{#2}%
11966 \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}}%
11967 }
11968 \def\hyper@image#1#2{%
11969 \begingroup
11970 \hyper@chars
11971 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11972 \endgroup
11973 }
11974 </textures>

```

43.12 dvipsone

```

11975 % \subsection{dvipsone driver}
11976 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11977 % |\special| commands.
11978 (*dvipsone)
11979 \providecommand*\XR@ext}{pdf}
11980 \let\Hy@raisedlink\ltx@empty
11981 \providecommand*\@pdfborder{0 0 1}
11982 \providecommand*\@pdfborderstyle{}
11983 \def\literalps@out#1{\special{ps:#1}}}%
11984 \def\headerps@out#1{\special{headertext=#1}}}%
11985 \input{pdfmark.def}%
11986 \HyInfo@AddonUnsupportedtrue
11987 \def\PDF@FinishDoc{%
11988 \Hy@UseMaketitleInfos
11989 \HyInfo@TrappedUnsupported
11990 \special{PDF: Keywords \@pdfkeywords}%
11991 \special{PDF: Title \@pdftitle}%
11992 \special{PDF: Creator \@pdfcreator}%
11993 \ifx\@pdfcreationdate\@empty
11994 \else
11995 \special{PDF: CreationDate \@pdfcreationdate}%
11996 \fi
11997 \ifx\@pdfmoddate\@empty
11998 \else

```

```

11999 \special{PDF: ModDate \@pdfmoddate}%
12000 \fi
12001 \special{PDF: Author \@pdfauthor}%
12002 \ifx\@pdfproducer\relax
12003 \else
12004 \special{PDF: Producer \@pdfproducer}%
12005 \fi
12006 \special{PDF: Subject \@pdfsubject}%
12007 \Hy@DisableOption{pdfauthor}%
12008 \Hy@DisableOption{pdftitle}%
12009 \Hy@DisableOption{pdfsubject}%
12010 \Hy@DisableOption{pdfcreator}%
12011 \Hy@DisableOption{addtopdfcreator}%
12012 \Hy@DisableOption{pdfcreationdate}%
12013 \Hy@DisableOption{pdfcreationdate}%
12014 \Hy@DisableOption{pdfmoddate}%
12015 \Hy@DisableOption{pdfproducer}%
12016 \Hy@DisableOption{pdfkeywords}%
12017 \Hy@DisableOption{pdftrapped}%
12018 \Hy@DisableOption{pdfinfo}%
12019 }
12020 \def\PDF@SetupDoc{%
12021 \def\Hy@temp{}%
12022 \ifx\@pdfstartpage\@empty
12023 \else
12024 \ifx\@pdfstartview\@empty
12025 \else
12026 \edef\Hy@temp{%
12027 ,Page=\@pdfstartpage
12028 ,View=\@pdfstartview
12029 }%
12030 \fi
12031 \fi
12032 \edef\Hy@temp{%
12033 \noexpand\pdfmark{%
12034 pdfmark=/DOCVIEW,%
12035 PageMode=/\@pdfpagemode
12036 \Hy@temp
12037 }%
12038 }%
12039 \Hy@temp
12040 \ifx\@pdfpagescrop\@empty
12041 \else
12042 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12043 \fi
12044 \edef\Hy@temp{%
12045 \ifHy@pdftoolbar\else /HideToolbar true\fi
12046 \ifHy@pdfmenubar\else /HideMenubar true\fi
12047 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12048 \ifHy@pdffitwindow /FitWindow true\fi
12049 \ifHy@pdfcenterwindow /CenterWindow true\fi
12050 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12051 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12052 \Hy@UseNameKey{Direction}\@pdfdirection

```



```

12053 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12054 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12055 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12056 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12057 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12058 \Hy@UseNameKey{Duplex}\@pdfduplex
12059 \ifx\@pdfpicktraybypdfsize\@empty
12060 \else
12061 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12062 \fi
12063 \ifx\@pdfprintpagerange\@empty
12064 \else
12065 /PrintPageRange[\@pdfprintpagerange]%
12066 \fi
12067 \ifx\@pdfnumcopies\@empty
12068 \else
12069 /NumCopies \@pdfnumcopies
12070 \fi
12071 }%
12072 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12073 \pdfmark{%
12074 pdfmark=/PUT,%
12075 Raw={%
12076 \string{Catalog\string}<<%
12077 \ifx\Hy@temp\@empty
12078 \else
12079 /ViewerPreferences<<\Hy@temp>>%
12080 \fi
12081 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12082 \ifx\@pdflang\relax
12083 \else
12084 /Lang(\@pdflang)%
12085 \fi
12086 \ifx\@baseurl\@empty
12087 \else
12088 /URI<</Base(\Hy@pstringB)>>%
12089 \fi
12090 >>%
12091 }%
12092 }%
12093 }
12094 \providecommand*\@pdfview{XYZ}
12095 \providecommand*\@pdfviewparams{ %
12096 gsave revscl currentpoint grestore %
12097 72 add exch pop null exch null%
12098 }
12099 \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 .

```

12100 \g@addto@macro\Hy@FirstPageHook{%

```

```

12101 \headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
12102 /DvipsToPDF { 65781 div } def%
12103 /PDFToDvips { 65781 mul } def%
12104 /BPToDvips{65781 mul}def%
12105 /HyperBorder { 1 PDFToDvips } def%
12106 /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.
12107 /BorderArrayPatch{%
12108   [exch{%
12109     dup dup type/integertype eq exch type/realtype eq or%
12110     {BPToDvips}if%
12111   }forall]%
12112 }def%

12113 /H.S {%
12114   currentpoint %
12115   HyperBorder add /pdf@lly exch def %
12116   dup DvipsToPDF 72 add /pdf@hoff exch def %
12117   HyperBorder sub /pdf@llx exch def%
12118 } def%
12119 /H.L {%
12120   2 sub %
12121   PDFToDvips /HyperBase exch def %
12122   currentpoint %
12123   HyperBase sub /pdf@ury exch def%
12124   /pdf@urx exch def%
12125 } def%
12126 /H.A {%
12127   H.L %
12128   currentpoint exch pop %
12129   HyperBase sub % baseline skip
12130   DvipsToPDF /pdf@voff exch def%
12131 } def%
12132 /H.R {%
12133   currentpoint %
12134   HyperBorder sub /pdf@ury exch def %
12135   HyperBorder add /pdf@urx exch def %
12136   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12137 } def%
12138 }%
12139 }

12140 \def\setpdfinkmargin#1{%
12141   \begingroup
12142     \setlength{\dimen@}{#1}%
12143     \literalps@out{%
12144       /HyperBorder{\stripOpt\dimen@\space PDFToDvips}def%
12145     }%
12146   \endgroup
12147 }

12148 </dvipsone>

```

43.13 TeX4ht

```

12149 (*tex4ht)
12150 \providecommand*\XR@ext\{html}
12151 \let\Hy@raisedlink\ltx@empty
12152 \@ifpackageloaded{tex4ht}{%
12153   \Hy@InfoNoLine{tex4ht is already loaded}%
12154 }{%
12155   \RequirePackage[hTeX4ht]{tex4ht}%
12156 }
12157 \hyperlinkfileprefix{}
12158 \let\PDF@FinishDoc\ltx@empty
12159 \def\PDF@SetupDoc{%
12160   \ifx\@baseurl\@empty
12161   \else
12162     \special{t4ht=<base href="\@baseurl">}%
12163   \fi
12164 }
12165 \Hy@WrapperDef\hyper@anchor#1{%
12166   \Hy@SaveLastskip
12167   \Hy@VerboseAnchor{#1}%
12168   \begingroup
12169     \let\protect=\string
12170     \special{t4ht=<a name=%
12171       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12172   \endgroup
12173   \Hy@activeanchortrue
12174   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12175   \special{t4ht=</a>}%
12176   \Hy@activeanchorfalse
12177   \Hy@RestoreLastskip
12178 }
12179 \Hy@WrapperDef\hyper@anchorstart#1{%
12180   \Hy@SaveLastskip
12181   \Hy@VerboseAnchor{#1}%
12182   \begingroup
12183     \hyper@chars\special{t4ht=<a name=%
12184       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12185   \endgroup
12186   \Hy@activeanchortrue
12187 }
12188 \def\hyper@anchorend{%
12189   \special{t4ht=</a>}%
12190   \Hy@activeanchorfalse
12191   \Hy@RestoreLastskip
12192 }
12193 \def\@urltype{url}
12194 \def\hyper@linkstart#1#2{%
12195   \Hy@VerboseLinkStart{#1}{#2}%
12196   \expandafter\Hy@colorlink\csname @#1color\endcsname
12197   \def\Hy@tempa{#1}%
12198   \ifx\Hy@tempa\@urltype
12199     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12200   \else

```

```

12201 \begingroup
12202 \hyper@chars
12203 \special{t4ht=<a href=%
12204 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12205 \endgroup
12206 \fi
12207 }
12208 \def\hyper@linkend{%
12209 \special{t4ht=</a>}%
12210 \Hy@endcolorlink
12211 }
12212 \def\hyper@linkfile#1#2#3{%
12213 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12214 }
12215 \def\hyper@linkurl#1#2{%
12216 \leavevmode
12217 \ifHy@raiselinks
12218 \Hy@SaveSpaceFactor
12219 \Hy@SaveSavedSpaceFactor
12220 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12221 \Hy@RestoreSavedSpaceFactor
12222 \@linkdim\dp\@tempboxa
12223 \lower\@linkdim\hbox{%
12224 \begingroup
12225 \hyper@chars
12226 \special{%
12227 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12228 }%
12229 \endgroup
12230 }%
12231 \Hy@colorlink\@urlcolor
12232 \Hy@RestoreSpaceFactor
12233 #1\Hy@xspace@end
12234 \Hy@SaveSpaceFactor
12235 \Hy@endcolorlink
12236 \@linkdim\ht\@tempboxa
12237 \advance\@linkdim by -6.5\p@
12238 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12239 \Hy@RestoreSpaceFactor
12240 \else
12241 \begingroup
12242 \hyper@chars
12243 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12244 \Hy@colorlink\@urlcolor
12245 #1\Hy@xspace@end
12246 \Hy@endcolorlink
12247 \special{t4ht=</a>}%
12248 \endgroup
12249 \fi
12250 }

```

Poor implementation of \hyper@link without considering #1.

```

12251 \def\hyper@link#1#2#3{%
12252 \Hy@VerboseLinkStart{#1}{#2}%
12253 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%

```

```

12254 }
12255 \def\hyper@image#1#2{%
12256   \begingroup
12257     \hyper@chars
12258     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12259   \endgroup
12260 }
12261 \let\autoref\ref
12262 \ifx \rEFLiNK \UnDef
12263   \def\rEFLiNK #1#2{#2}%
12264 \fi
12265 \let\backref\ltx@gobble
Fix for tex4ht.
12266 \AtBeginDocument{%
12267   \expandafter
12268   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12269   \expandafter\def\csname Make:Label\endcsname#1#2{%
12270     \ifhmode
12271       \Hy@SaveSpaceFactor
12272     \else
12273       \global\Hy@SavedSpaceFactor=1000 %
12274     \fi
12275     \Hy@OrgMakeLabel{#1}{%
12276       \Hy@RestoreSpaceFactor
12277       #2\Hy@xspace@end%
12278     \Hy@SaveSpaceFactor
12279   }%
12280   \Hy@RestoreSpaceFactor
12281 }%
12282 }
12283 </tex4ht>
12284 <*tex4htcfg>
12285 \IfFileExists{\jobname.cfg}{\endinput}{}
12286 \Preamble{html}
12287   \begin{document}%
12288 \EndPreamble
12289 \def\TeX{TeX}
12290 \def\OMEGA{\Omega}
12291 \def\LaTeX{LaTeX}
12292 \def\LaTeXe{\LaTeX2e}
12293 \def\eTeX{e-TeX}
12294 \def\MF{Metafont}
12295 \def\MP{MetaPost}
12296 </tex4htcfg>

```

44 Driver-specific form support

44.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```

12297 <*pdfmark>
12298 \long\def\@Form[#1]{%
12299 \g@addto@macro\Hy@FirstPageHook{%
12300   \headerps@out{%

```

12301 [%
12302 /__objdef{pdfDocEncoding}%
12303 /type/dict%
12304 /OBJ pdfmark%
12305 [%
12306 {pdfDocEncoding}%
12307 <<%
12308 /Type/Encoding%
12309 /Differences[%
12310 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12311 /tilde %
12312 39/quotesingle %
12313 96/grave %
12314 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12315 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12316 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12317 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12318 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12319 160/Euro %
12320 164/currency %
12321 166/brokenbar %
12322 168/dieresis/copyright/ordfeminine %
12323 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12324 /twosuperior/threesuperior/acute/mu %
12325 183/periodcentered/cedilla/onesuperior/ordmasculine %
12326 188/onequarter/onehalf/threequarters %
12327 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12328 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12329 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12330 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12331 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12332 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12333 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12334 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12335 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12336 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12337]%
12338 >>%
12339 /PUT pdfmark%
12340 [%
12341 /__objdef{ZaDb}%
12342 /type/dict%
12343 /OBJ pdfmark%
12344 [%
12345 {ZaDb}%
12346 <<%
12347 /Type/Font%
12348 /Subtype/Type1%
12349 /Name/ZaDb%
12350 /BaseFont/ZapfDingbats%
12351 >>%
12352 /PUT pdfmark%
12353 [%
12354 /__objdef{Helv}%

```

12355 /type/dict%
12356 /OBJ pdfmark%
12357 [%
12358 {Helv}%
12359 <<%
12360 /Type/Font%
12361 /Subtype/Type1%
12362 /Name/Helv%
12363 /BaseFont/Helvetica%
12364 /Encoding{pdfDocEncoding}%
12365 >>%
12366 /PUT pdfmark%
12367 [%
12368 /__objdef{aform}%
12369 /type/dict%
12370 /OBJ pdfmark%
12371 [%
12372 /__objdef{afields}%
12373 /type/array%
12374 /OBJ pdfmark%
12375 [%
12376 /__objdef{corder}%
12377 /type/array%
12378 /OBJ pdfmark%
12379 {%
12380 [%
12381 /BBox[0 0 100 100]%
12382 /__objdef{Check}%
12383 /BP pdfmark %
12384 1 0 0 setrgbcolor%
12385 /ZapfDingbats 80 selectfont %
12386 20 20 moveto%
12387 (4)show%
12388 [/EP pdfmark%
12389 [%
12390 /BBox[0 0 100 100]%
12391 /__objdef{Cross}%
12392 /BP pdfmark %
12393 1 0 0 setrgbcolor%
12394 /ZapfDingbats 80 selectfont %
12395 20 20 moveto%
12396 (8)show%
12397 [/EP pdfmark%
12398 [%
12399 /BBox[0 0 250 100]%
12400 /__objdef{Submit}%
12401 /BP pdfmark %
12402 0.6 setgray %
12403 0 0 250 100 rectfill %
12404 1 setgray %
12405 2 2 moveto %
12406 2 98 lineto %
12407 248 98 lineto %
12408 246 96 lineto %

```

```

12409 4 96 lineto %
12410 4 4 lineto %
12411 fill %
12412 0.34 setgray %
12413 248 98 moveto %
12414 248 2 lineto %
12415 2 2 lineto %
12416 4 4 lineto %
12417 246 4 lineto %
12418 246 96 lineto %
12419 fill%
12420 /Helvetica 76 selectfont %
12421 0 setgray %
12422 8 22.5 moveto%
12423 (Submit)show%
12424 [/EP pdfmark%
12425 [%
12426 /BBox[0 0 250 100]%
12427 /_objdef{SubmitP}%
12428 /BP pdfmark %
12429 0.6 setgray %
12430 0 0 250 100 rectfill %
12431 0.34 setgray %
12432 2 2 moveto %
12433 2 98 lineto %
12434 248 98 lineto %
12435 246 96 lineto %
12436 4 96 lineto %
12437 4 4 lineto %
12438 fill %
12439 1 setgray %
12440 248 98 moveto %
12441 248 2 lineto %
12442 2 2 lineto %
12443 4 4 lineto %
12444 246 4 lineto %
12445 246 96 lineto %
12446 fill%
12447 /Helvetica 76 selectfont %
12448 0 setgray %
12449 10 20.5 moveto%
12450 (Submit)show%
12451 [/EP pdfmark%
12452 } ?pdfmark%
12453 [%
12454 {aform}%
12455 <<%
12456 /Fields{afields}%
12457 /DR<<%
12458 /Font<<%
12459 /ZaDb{ZaDb}%
12460 /Helv{Helv}%
12461 >>%
12462 >>%

```



```

12463 /DA(/Helv 10 Tf 0 g)%
12464 /CO{corder}%
12465 \ifHy@pdfa
12466 \else
12467 \ifHyField@NeedAppearances
12468 /NeedAppearances true%
12469 \fi
12470 \fi
12471 >>%
12472 /PUT pdfmark%
12473 [%
12474 {Catalog}%
12475 <<%
12476 /AcroForm{aform}%
12477 >>%
12478 /PUT pdfmark%
12479 }}%
12480 \kvsetkeys{Form}{#1}%
12481 }
12482 \let\@endForm\ltx@empty
12483 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12484 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12485 }

12486 \newcount\HyField@AnnotCount
12487 \HyField@AnnotCount=\z@
12488 \def\HyField@AdvanceAnnotCount{%
12489 \global\advance\HyField@AnnotCount\@ne
12490 }
12491 \def\HyField@TheAnnotCount{%
12492 \the\HyField@AnnotCount
12493 }

12494 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12495 \def\HyField@AddToFields#1{%
12496 \pdfmark{%
12497 pdfmark=/APPEND,%
12498 Raw={%
12499 \string{afields\string}%
12500 \string{#1\HyField@TheAnnotCount\string}%
12501 }%
12502 }%
12503 \ifx\Fld@calculate@code\ltx@empty
12504 \else
12505 \pdfmark{%
12506 pdfmark=/APPEND,%
12507 Raw={%
12508 \string{corder\string}%
12509 \string{#1\HyField@TheAnnotCount\string}%
12510 }%
12511 }%
12512 \fi
12513 }

12514 \def\@TextField[#1]#2{% parameters, label
12515 \def\Fld@name{#2}%

```

```

12516 \let\Fld@default\ltx@empty
12517 \let\Fld@value\@empty
12518 \def\Fld@width{\DefaultWidthofText}%
12519 \def\Fld@height{%
12520   \ifFld@multiline
12521     \DefaultHeightofTextMultiline
12522   \else
12523     \DefaultHeightofText
12524   \fi
12525 }%
12526 \begingroup
12527   \expandafter\HyField@SetKeys\expandafter{%
12528     \DefaultOptionsofText,#1%
12529   }%
12530   \HyField@FlagsText
12531   \ifFld@hidden\def\Fld@width{1sp}\fi
12532   \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12533   \HyField@AdvanceAnnotCount
12534   \LayoutTextField{#2}{%
12535     \leavevmode
12536     \Hy@escapeform\PDFForm@Text
12537     \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12538       pdfmark=/ANN,%
12539       objdef=text\HyField@TheAnnotCount,%
12540       Raw={\PDFForm@Text}%
12541     }%
12542   }%
12543   \HyField@AddToFields{text}%
12544 \endgroup
12545 }
12546 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12547   \def\Fld@name{#2}%
12548   \let\Fld@default\relax
12549   \let\Fld@value\relax
12550   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12551   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12552   \begingroup
12553     \Fld@menulength=0 %
12554     \@tempdima\z@
12555     \@for\@curropt:=#3\do{%
12556       \expandafter\Fld@checkequals\@curropt==\\%
12557       \Hy@StepCount\Fld@menulength
12558       \settowidth{\@tempdimb}{\@currDisplay}%
12559       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12560     }%
12561     \advance\@tempdima by 15\p@
12562     \begingroup
12563       \HyField@SetKeys{#1}%
12564     \edef\x{\endgroup
12565       \noexpand\expandafter
12566       \noexpand\HyField@SetKeys
12567       \noexpand\expandafter{%
12568         \expandafter\noexpand\cname DefaultOptionsof%
12569         \ifFld@radio

```

```

12570         Radio%
12571     \else
12572         \ifFld@combo
12573         \ifFld@popdown
12574             PopdownBox%
12575         \else
12576             ComboBox%
12577         \fi
12578     \else
12579         ListBox%
12580     \fi
12581 \fi
12582 \endcsname
12583 }%
12584 }\x
12585 \HyField@SetKeys{#1}%
12586 \ifFld@hidden\def\Fld@width{1sp}\fi
12587 \ifx\Fld@value\relax
12588     \let\Fld@value\Fld@default
12589 \fi
12590 \LayoutChoiceField{#2}{%
12591     \ifFld@radio
12592         \HyField@FlagsRadioButton
12593         \@@Radio{#3}%
12594     \else
12595         \begingroup
12596         \HyField@FlagsChoice
12597         \ifdim\Fld@width<\@tempdima
12598             \ifdim\@tempdima<1cm\@tempdima1cm\fi
12599             \edef\Fld@width{\the\@tempdima}%
12600         \fi
12601         \ifFld@combo
12602         \else
12603             \@tempdima=\the\Fld@menulength\Fld@charsize
12604             \advance\@tempdima by \Fld@borderwidth bp %
12605             \advance\@tempdima by \Fld@borderwidth bp %
12606             \edef\Fld@height{\the\@tempdima}%
12607         \fi
12608         \@@ListBox{#3}%
12609     \endgroup
12610 \fi
12611 }%
12612 \endgroup
12613 }
12614 \def\@@Radio#1{%
12615     \Fld@listcount=0 %
12616     \EdefEscapeName\Fld@default{\Fld@default}%
12617     \@for\@curropt:=#1\do{%
12618         \expandafter\Fld@checkequals\@curropt==\%
12619         \EdefEscapeName\@currValue{\@currValue}%
12620         \Hy@StepCount\Fld@listcount
12621         \@currDisplay\space
12622         \Hy@escapeform\PDFForm@Radio
12623         \ifnum\Fld@listcount=1 %

```

```

12624 \HyField@AdvanceAnnotCount
12625 \fi
12626 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12627 pdfmark=/ANN,%
12628 objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12629 Raw={%
12630 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12631 }%
12632 } % deliberate space between radio buttons
12633 \ifnum\Fld@listcount=1 %
12634 \HyField@AddToFields{radio}%
12635 \fi
12636 }%
12637 }
12638 \newcount\Fld@listcount
12639 \def\@@Listbox#1{%
12640 \HyField@PDFChoices{#1}%
12641 \Hy@escapeform\PDFForm@List
12642 \HyField@AdvanceAnnotCount
12643 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12644 pdfmark=/ANN,%
12645 objdef=list\HyField@TheAnnotCount,%
12646 Raw={\PDFForm@List}%
12647 }%
12648 \HyField@AddToFields{list}%
12649 }
12650 \def\@PushButton[#1]#2{% parameters, label
12651 \def\Fld@name{#2}%
12652 \begingroup
12653 \expandafter\HyField@SetKeys\expandafter{%
12654 \DefaultOptionsofPushButton,#1%
12655 }%
12656 \ifHy@pdfa
12657 \Hy@Error{%
12658 PDF/A: Push button with JavaScript is prohibited%
12659 } \@ehc
12660 \LayoutPushButtonField{%
12661 \leavevmode
12662 \MakeButtonField{#2}%
12663 }%
12664 \else
12665 \HyField@FlagsPushButton
12666 \iffld@hidden\def\Fld@width{1sp}\fi
12667 \HyField@AdvanceAnnotCount
12668 \LayoutPushButtonField{%
12669 \leavevmode
12670 \Hy@escapeform\PDFForm@Push
12671 \pdfmark[\MakeButtonField{#2}]{%
12672 pdfmark=/ANN,%
12673 objdef=push\HyField@TheAnnotCount,%
12674 Raw={\PDFForm@Push}%
12675 }%
12676 }%
12677 \HyField@AddToFields{push}%

```

```

12678 \fi
12679 \endgroup
12680 }
12681 \def\@Submit[#1]#2{%
12682 \def\Fld@width{\DefaultWidthofSubmit}%
12683 \def\Fld@height{\DefaultHeightofSubmit}%
12684 \begingroup
12685 \expandafter\HyField@SetKeys\expandafter{%
12686 \DefaultOptionsofSubmit,#1%
12687 }%
12688 \HyField@FlagsPushButton
12689 \HyField@FlagsSubmit
12690 \ifFld@hidden\def\Fld@width{1sp}\fi
12691 \Hy@escapeform\PDFForm@Submit
12692 \HyField@AdvanceAnnotCount
12693 \pdfmark[\MakeButtonField{#2}]{%
12694 pdfmark=/ANN,%
12695 objdef=submit\HyField@TheAnnotCount,%
12696 Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12697 }%
12698 \HyField@AddToFields{submit}%
12699 \endgroup
12700 }
12701 \def\@Reset[#1]#2{%
12702 \def\Fld@width{\DefaultWidthofReset}%
12703 \def\Fld@height{\DefaultHeightofReset}%
12704 \begingroup
12705 \expandafter\HyField@SetKeys\expandafter{%
12706 \DefaultOptionsofReset,#1%
12707 }%
12708 \leavevmode
12709 \ifHy@pdfa
12710 \Hy@Error{%
12711 PDF/A: Reset action is prohibited%
12712 }\@ehc
12713 \MakeButtonField{#2}%
12714 \else
12715 \HyField@FlagsPushButton
12716 \ifFld@hidden\def\Fld@width{1sp}\fi
12717 \Hy@escapeform\PDFForm@Reset
12718 \HyField@AdvanceAnnotCount
12719 \pdfmark[\MakeButtonField{#2}]{%
12720 pdfmark=/ANN,%
12721 objdef=reset\HyField@TheAnnotCount,%
12722 Raw={\PDFForm@Reset}%
12723 }%
12724 \HyField@AddToFields{reset}%
12725 \fi
12726 \endgroup
12727 }%
12728 \def\@CheckBox[#1]#2{% parameters, label
12729 \def\Fld@name{#2}%
12730 \def\Fld@default{0}%
12731 \begingroup

```

```

12732 \def\Fld@width{\DefaultWidthofCheckBox}%
12733 \def\Fld@height{\DefaultHeightofCheckBox}%
12734 \expandafter\HyField@SetKeys\expandafter{%
12735   \DefaultOptionsofCheckBox,#1%
12736 }%
12737 \HyField@FlagsCheckBox
12738 \ifFld@hidden\def\Fld@width{1sp}\fi
12739 \HyField@AdvanceAnnotCount
12740 \LayoutCheckField{#2}{%
12741   \leavevmode
12742   \Hy@escapeform\PDFForm@Check
12743   \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
12744     pdfmark=/ANN,%
12745     objdef=check\HyField@TheAnnotCount,%
12746     Raw={\PDFForm@Check}%
12747   }%
12748 }%
12749 \HyField@AddToFields{check}%
12750 \endgroup
12751 }
12752 \pdfmark>

```

44.2 HyperTeX

```

12753 <*hypertex>
12754 \def\@Form[#1]{%
12755   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12756 }
12757 \let\@endForm\ltx@empty
12758 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12759   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12760 }
12761 \def\@TextField[#1]#2{% parameters, label
12762   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12763 }
12764 \def\@CheckBox[#1]#2{% parameters, label
12765   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12766 }
12767 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12768   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12769 }
12770 \def\@PushButton[#1]#2{% parameters, label
12771   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12772 }
12773 \def\@Reset[#1]#2{%
12774   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12775 }
12776 \def\@Submit[#1]#2{%
12777   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12778 }
12779 </hypertex>

```

44.3 TeX4ht

```

12780 <*tex4ht>

```

```

12781 \def\@Form[#1]{%
12782   \kvsetkeys{Form}{#1}%
12783   \HCode{<form action="\Form@action" method="\Form@method">}%
12784 }
12785 \def\@endForm{\HCode{</form>}}
12786 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12787   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12788 }
12789 \def\@TextField[#1]#2{% parameters, label
12790   \let\Hy@reserved@a\@empty
12791   \def\Fld@name{#2}%
12792   \let\Fld@default\ltx@empty
12793   \bgroup
12794     \Field@toks={ }%
12795     \kvsetkeys{Field}{#1}%
12796     \HCode{<label for="\Fld@name">#2</label>}%
12797     \ifFld@password
12798       \@@PasswordField
12799     \else
12800       \@@TextField
12801     \fi
12802   \egroup
12803 }
12804 \def\@@PasswordField{%
12805   \HCode{%
12806     <input type="password" %
12807       id="\Fld@name" %
12808       name="\Fld@name" %
12809       \ifFld@hidden type="hidden" \fi
12810       value="\Fld@default" %
12811       \the\Field@toks
12812     >%
12813   }%
12814 }
12815 \def\@@TextField{%
12816   \ifFld@multiline
12817     \HCode{<textarea %
12818       \ifFld@readonly readonly \fi
12819       id="\Fld@name" %
12820       name="\Fld@name" %
12821       \ifFld@hidden type="hidden" \fi
12822       \the\Field@toks>%
12823     }%
12824     \Fld@default
12825     \HCode{</textarea>}%
12826   \else
12827     \HCode{<input type="text" %
12828       \ifFld@readonly readonly \fi
12829       id="\Fld@name" %
12830       name="\Fld@name" %
12831       \ifFld@hidden type="hidden" \fi
12832       value="\Fld@default" %
12833       \the\Field@toks>%
12834     }%

```

```

12835 \fi
12836 }
12837 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12838 \def\Fld@name{#2}%
12839 \let\Fld@default\ltx@empty
12840 \let\Hy@reserved@a\relax
12841 \begingroup
12842 \expandafter\Fld@findlength#3\\%
12843 \Field@toks={ }%
12844 \kvsetkeys{Field}{#1}%
12845 #2%
12846 \ifFld@radio
12847 \expandafter\@@Radio#3\\%
12848 \else
12849 \expandafter\@@Menu#3\\%
12850 \fi
12851 \endgroup
12852 }
12853 \def\Fld@findlength#1\\{%
12854 \Fld@menulength=0 %
12855 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12856 }
12857 \def\@@Menu#1\\{%
12858 \HCode{<select size="\the\Fld@menulength" %
12859 name="\Fld@name" %
12860 \the\Field@toks>%
12861 }%
12862 \@for\@curropt:=#1\do{%
12863 \expandafter\Fld@checkequals\@curropt==\\%
12864 \HCode{<option %
12865 \ifx\@curropt\Fld@default selected \fi
12866 value="\@currValue">\@currDisplay</option>%
12867 }%
12868 }%
12869 \HCode{</select>}%
12870 }
12871 \def\@@Radio#1\\{%
12872 \@for\@curropt:=#1\do{%
12873 \expandafter\Fld@checkequals\@curropt==\\%
12874 \HCode{<input type="radio" %
12875 \ifx\@curropt\Fld@default checked \fi
12876 name="\Fld@name" %
12877 value="\@currValue" %
12878 \the\Field@toks>%
12879 }%
12880 \@currDisplay
12881 }%
12882 }
12883 \def\@PushButton[#1]#2{% parameters, label
12884 \def\Fld@name{#2}%
12885 \bgroup
12886 \Field@toks={ }%
12887 \kvsetkeys{Field}{#1}%
12888 \HCode{<input type="button" %

```



```

12889     name="\Fld@name" %
12890     value="#2" %
12891     \the\Field@toks>%
12892   }%
12893   \HCode{</button>}%
12894 \egroup
12895 }
12896 \def\@Submit[#1]#2{%
12897   \HCode{<button type="submit">#2</button>}%
12898 }
12899 \def\@Reset[#1]#2{%
12900   \HCode{<button type="reset">#2</button>}%
12901 }
12902 \def\@CheckBox[#1]#2{% parameters, label
12903   \let\Hy@reserved@a\@empty
12904   \def\Fld@name{#2}%
12905   \def\Fld@default{0}%
12906   \bgroup
12907     \Field@toks={ }%
12908     \kvsetkeys{Field}{#1}%
12909     \HCode{<input type="checkbox" %
12910       \ifFld@checked checked \fi
12911       \ifFld@disabled disabled \fi
12912       \ifFld@readonly readonly \fi
12913       name="\Fld@name" %
12914       \ifFld@hidden type="hidden" \fi
12915       value="\Fld@default" %
12916       \the\Field@toks>%
12917       #2%
12918     }%
12919   \egroup
12920 }
12921 </tex4ht>

```

44.4 pdfTeX

```

12922 <*pdfTeX>
12923 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12924   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12925 }
12926 \def\MakeFieldObject#1#2{\sbox0{#1}%
12927   \immediate\pdfxform0 %
12928   \expandafter\edef\csname #2Object\endcsname{%
12929     \the\pdflastxform\space 0 R%
12930   }%
12931   % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12932 }%
12933 \let\HyField@afields\ltx@empty
12934 \let\HyField@cofields\ltx@empty
12935 \@ifundefined{pdflastlink}
12936 {}%
12937 \let\HyField@AddToFields\relax
12938 \PackageInfo{hyperref}{%
12939   You need pdfTeX 1.40.0 for setting the /Fields entry.%
12940   \MessageBreak

```

```

12941 Adobe Reader/Acrobat accepts an empty /Field array,%
12942 \MessageBreak
12943 but other PDF viewers might complain%
12944 }}%
12945 {%
12946 \let\HyField@AuxAddToFields\ltx@gobble
12947 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
12948 \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.

```

12949 \def\HyField@ABD@AuxAddToCoFields#1#2{%
12950 \begingroup
12951 \Hy@safe@activetrue
12952 \let\ltx@secondoftwo\relax
12953 \ifx\HyField@cofields\ltx@empty
12954 \xdef\HyField@cofields{%
12955 \ltx@secondoftwo{#1}{ #2 0 R}%
12956 }%
12957 \else
12958 \let\ltx@secondoftwo\relax
12959 \def\HyField@AddCoField##1##2##3{%
12960 \ifx##1\ltx@empty
12961 \ltx@secondoftwo{#1}{ #2 0 R}%
12962 \expandafter\ltx@gobble
12963 \else
12964 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
12965 \ltx@secondoftwo{#1}{ #2 0 R}%
12966 \ltx@secondoftwo{##2}{##3}%
12967 \expandafter\expandafter\expandafter\ltx@gobble
12968 \else
12969 \ltx@secondoftwo{##2}{##3}%
12970 \fi
12971 \fi
12972 \HyField@AddCoField
12973 }%
12974 \xdef\HyField@cofields{%
12975 \expandafter\HyField@AddCoField
12976 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
12977 }%
12978 \fi
12979 \endgroup
12980 }%
12981 \Hy@AtBeginDocument{%
12982 \if@files
12983 \immediate\write\@mainaux{%
12984 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12985 }%
12986 \immediate\write\@mainaux{%
12987 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
12988 }%
12989 \fi
12990 \let\HyField@AfterAuxOpen\@firstofone
12991 \def\HyField@AuxAddToFields#1{%
12992 \xdef\HyField@afields{%

```

```

12993     \ifx\HyField@afields\@empty
12994     \else
12995         \HyField@afields
12996         \space
12997     \fi
12998     #1 0 R%
12999 }%
13000 }%
13001 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13002 }%
13003 \def\HyField@AddToFields{%
13004     \expandafter\HyField@@AddToFields\expandafter{%
13005         \the\pdfastlink
13006     }%
13007     \ifx\Fld@calculate@code\ltx@empty
13008     \else
13009         \begingroup
13010         \Hy@safe@activetrue
13011         \edef\Hy@temp{%
13012             \endgroup
13013             \if@filesw
13014                 \write\@mainaux{%
13015                     \string\HyField@AuxAddToCoFields{%
13016                         \Fld@calculate@sortkey
13017                     }{%
13018                         \the\pdfastlink
13019                     }%
13020                 }%
13021             \fi
13022         }%
13023         \Hy@temp
13024     \fi
13025 }%
13026 \def\HyField@@AddToFields#1{%
13027     \HyField@AfterAuxOpen{%
13028         \if@filesw
13029             \write\@mainaux{%
13030                 \string\HyField@AuxAddToFields{#1}%
13031             }%
13032         \fi
13033     }%
13034 }%
13035 }
13036 \def\@Form[#1]{%
13037     \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13038     \kvsetkeys{Form}{#1}%
13039     \pdf@ifdraftmode{}{%
13040         \Hy@FormObjects
13041         \ifnum\pdftexversion>13 %
13042             \pdfrefobj\OBJ@pdfdocencoding
13043             \pdfrefobj\OBJ@ZaDb
13044             \pdfrefobj\OBJ@Helv
13045         \fi
13046         \AtVeryEndDocument{%

```

```

13047 \immediate\pdfobj{%
13048 <<%
13049 /Fields[\HyField@afields]%
13050 \ifx\HyField@cofields\ltx@empty
13051 \else
13052 /CO[\romannumeral-`\Q\HyField@cofields]%
13053 \fi
13054 /DR<<%
13055 /Font<<%
13056 /ZaDb \OBJ@ZaDb\space 0 R%
13057 /Helv \OBJ@Helv\space 0 R%
13058 >>%
13059 >>%
13060 /DA(/Helv 10 Tf 0 g)%
13061 \ifHy@pdfa
13062 \else
13063 \ifHyField@NeedAppearances
13064 /NeedAppearances true%
13065 \fi
13066 \fi
13067 >>%
13068 }%
13069 \edef\OBJ@acroform{\the\pdfastobj}%
13070 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13071 }%
13072 }%
13073 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13074 \begingroup
13075 \fontfamily{pzd}%
13076 \fontencoding{U}%
13077 \fontseries{m}%
13078 \fontshape{n}%
13079 \selectfont
13080 \char123 %
13081 \endgroup
13082 }{Ding}%
13083 \MakeFieldObject{%
13084 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13085 }{Submit}%
13086 \MakeFieldObject{%
13087 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13088 }{SubmitP}%
13089 }
13090 \let\@endForm\ltx@empty
13091 \let\HyAnn@AbsPageLabel\ltx@empty
13092 \let\Fld@pageobjref\ltx@empty
13093 \ltx@ifundefined{pdfpageref}{%
13094 }{%
13095 \ltx@ifpackageloaded{zref-abspage}{%
13096 \newcount\HyAnn@Count
13097 \HyAnn@Count=\ltx@zero
13098 \def\HyAnn@AbsPageLabel{%
13099 \global\advance\HyAnn@Count by\ltx@one

```

```

13100 \zref@labelbyprops{HyAnn@the\HyAnn@Count}{abspage}%
13101 \zref@refused{HyAnn@the\HyAnn@Count}%
13102 }%
13103 \def\Fld@pageobjref{%
13104 \zref@ifrefundefined{HyAnn@the\HyAnn@Count}{%
13105 }{%
13106 \zref@ifrefcontainsprop{HyAnn@the\HyAnn@Count}{abspage}{%
13107 /P \pdfpageref
13108 \zref@extractdefault{HyAnn@the\HyAnn@Count}{abspage}{1} %
13109 \space 0 R%
13110 }{%
13111 }%
13112 }%
13113 }%
13114 }{%
13115 }%
13116 }

13117 \def\@TextField[#1]#2{% parameters, label
13118 \def\Fld@name{#2}%
13119 \let\Fld@default\tx@empty
13120 \let\Fld@value\@empty
13121 \def\Fld@width{\DefaultWidthofText}%
13122 \def\Fld@height{%
13123 \ifFld@multiline
13124 \DefaultHeightofTextMultiline
13125 \else
13126 \DefaultHeightofText
13127 \fi
13128 }%
13129 \begingroup
13130 \expandafter\HyField@SetKeys\expandafter{%
13131 \DefaultOptionsofText,#1%
13132 }%
13133 \PDFForm@Name
13134 \HyField@FlagsText
13135 \ifFld@hidden\def\Fld@width{1sp}\fi
13136 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13137 \LayoutTextField{#2}{%
13138 \leavevmode
13139 \HyAnn@AbsPageLabel
13140 \Hy@escapeform\PDFForm@Text
13141 \pdfstartlink user {\PDFForm@Text}\relax
13142 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13143 \HyField@AddToFields
13144 }%
13145 \endgroup
13146 }

13147 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13148 \def\Fld@name{#2}%
13149 \let\Fld@default\relax
13150 \let\Fld@value\relax
13151 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13152 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13153 \begingroup

```

```

13154 \Fld@menulength=0 %
13155 \@tempdima\z@
13156 \@for\@curropt:=#3\do{%
13157   \expandafter\Fld@checkequals\@curropt==\\%
13158   \Hy@StepCount\Fld@menulength
13159   \settowidth{\@tempdimb}{\@currDisplay}%
13160   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13161 }%
13162 \advance\@tempdima by 15\p@
13163 \begingroup
13164   \HyField@SetKeys{#1}%
13165 \edef\x{\endgroup
13166   \noexpand\expandafter
13167   \noexpand\HyField@SetKeys
13168   \noexpand\expandafter{%
13169     \expandafter\noexpand\csname DefaultOptionsof%
13170       \ifFld@radio
13171         Radio%
13172       \else
13173         \ifFld@combo
13174         \ifFld@popdown
13175         PopdownBox%
13176       \else
13177         ComboBox%
13178       \fi
13179       \else
13180       ListBox%
13181       \fi
13182     \fi
13183   \endcsname
13184 }%
13185 }\x
13186 \HyField@SetKeys{#1}%
13187 \PDFForm@Name
13188 \ifFld@hidden\def\Fld@width{1sp}\fi
13189 \ifx\Fld@value\relax
13190   \let\Fld@value\Fld@default
13191 \fi
13192 \LayoutChoiceField{#2}{%
13193   \ifFld@radio
13194     \HyField@FlagsRadioButton
13195     \@@Radio{#3}%
13196   \else
13197     \begingroup
13198     \HyField@FlagsChoice
13199     \ifdim\Fld@width<\@tempdima
13200       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13201       \edef\Fld@width{\the\@tempdima}%
13202     \fi
13203     \ifFld@combo
13204     \else
13205       \@tempdima=\the\Fld@menulength\Fld@charsize
13206       \advance\@tempdima by \Fld@borderwidth bp %
13207       \advance\@tempdima by \Fld@borderwidth bp %

```

```

13208         \edef\Fld@height{\the\@tempdima}%
13209         \fi
13210         \@@ListBox{#3}%
13211     \endgroup
13212     \fi
13213 }%
13214 \endgroup
13215 }
13216 \def\@@Radio#1{%
13217     \Fld@listcount=0 %
13218     \EdefEscapeName\Fld@default{\Fld@default}%
13219     \@for\@curropt:=#1\do{%
13220         \expandafter\Fld@checkequals\@curropt==\%
13221         \EdefEscapeName\@currValue{\@currValue}%
13222         \Hy@StepCount\Fld@listcount
13223         \@currDisplay\space
13224         \leavevmode
13225         \HyAnn@AbsPageLabel
13226         \Hy@escapeform\PDFForm@Radio
13227         \pdfstartlink user {%
13228             \PDFForm@Radio
13229             /AP<<%
13230             /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.

```

13231         /\@currValue\space \DingObject
13232     >>%
13233     >>%
13234 }%
13235 \relax
13236 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13237 \ifnum\Fld@listcount=1 %
13238     \HyField@AddToFields
13239 \fi
13240 \space % deliberate space between radio buttons
13241 }%
13242 }
13243 \newcount\Fld@listcount
13244 \def\@@ListBox#1{%
13245     \HyField@PDFChoices{#1}%
13246     \leavevmode
13247     \HyAnn@AbsPageLabel
13248     \Hy@escapeform\PDFForm@List
13249     \pdfstartlink user {\PDFForm@List}\relax
13250     \MakeChoiceField{\Fld@width}{\Fld@height}%
13251     \pdfendlink
13252     \HyField@AddToFields
13253 }
13254 \def\@PushButton[#1]#2{% parameters, label
13255     \def\Fld@name{#2}%
13256     \begingroup
13257     \expandafter\HyField@SetKeys\expandafter{%

```

```

13258     \DefaultOptionsofPushButton,#1%
13259 }%
13260 \PDFForm@Name
13261 \ifHy@pdfa
13262     \Hy@Error{%
13263         PDF/A: Push button with JavaScript is prohibited%
13264     } \@ehc
13265     \LayoutPushButtonField{%
13266         \leavevmode
13267         \MakeButtonField{#2}%
13268     }%
13269 \else
13270     \HyField@FlagsPushButton
13271     \ifFld@hidden\def\Fld@width{1sp}\fi
13272     \LayoutPushButtonField{%
13273         \leavevmode
13274         \HyAnn@AbsPageLabel
13275         \Hy@escapeform\PDFForm@Push
13276         \pdfstartlink user {\PDFForm@Push}\relax
13277         \MakeButtonField{#2}%
13278         \pdfendlink
13279         \HyField@AddToFields
13280     }%
13281 \fi
13282 \endgroup
13283 }
13284 \def\@Submit[#1]#2{%
13285     \def\Fld@width{\DefaultWidthofSubmit}%
13286     \def\Fld@height{\DefaultHeightofSubmit}%
13287     \begingroup
13288         \expandafter\HyField@SetKeys\expandafter{%
13289             \DefaultOptionsofSubmit,#1%
13290         }%
13291         \HyField@FlagsPushButton
13292         \HyField@FlagsSubmit
13293         \ifFld@hidden\def\Fld@width{1sp}\fi
13294         \leavevmode
13295         \HyAnn@AbsPageLabel
13296         \Hy@escapeform\PDFForm@Submit
13297         \pdfstartlink user {%
13298             \PDFForm@Submit
13299             /AP<</N \SubmitObject/D \SubmitPObject>>%
13300         }%
13301         \relax
13302         \MakeButtonField{#2}%
13303         \pdfendlink
13304         \HyField@AddToFields
13305     \endgroup
13306 }
13307 \def\@Reset[#1]#2{%
13308     \def\Fld@width{\DefaultWidthofReset}%
13309     \def\Fld@height{\DefaultHeightofReset}%
13310     \begingroup
13311         \expandafter\HyField@SetKeys\expandafter{%

```



```

13312     \DefaultOptionsofReset,#1%
13313 }%
13314 \leavevmode
13315 \ifHy@pdfa
13316     \Hy@Error{%
13317         PDF/A: Reset action is prohibited%
13318     }\@ehc
13319     \MakeButtonField{#2}%
13320 \else
13321     \HyField@FlagsPushButton
13322     \ifFld@hidden\def\Fld@width{1sp}\fi
13323     \HyAnn@AbsPageLabel
13324     \Hy@escapeform\PDFForm@Reset
13325     \pdfstartlink user {\PDFForm@Reset}\relax
13326     \MakeButtonField{#2}%
13327     \pdfendlink
13328     \HyField@AddToFields
13329 \fi
13330 \endgroup
13331 }
13332 \def\@CheckBox[#1]#2{% parameters, label
13333     \def\Fld@name{#2}%
13334     \def\Fld@default{0}%
13335     \begingroup
13336         \def\Fld@width{\DefaultWidthofCheckBox}%
13337         \def\Fld@height{\DefaultHeightofCheckBox}%
13338         \expandafter\HyField@SetKeys\expandafter{%
13339             \DefaultOptionsofCheckBox,#1%
13340         }%
13341         \PDFForm@Name
13342         \HyField@FlagsCheckBox
13343         \ifFld@hidden\def\Fld@width{1sp}\fi
13344         \LayoutCheckField{#2}{%
13345             \leavevmode
13346             \HyAnn@AbsPageLabel
13347             \Hy@escapeform\PDFForm@Check
13348             \pdfstartlink user {\PDFForm@Check}\relax
13349             \MakeCheckField{\Fld@width}{\Fld@height}%
13350             \pdfendlink
13351             \HyField@AddToFields
13352         }%
13353     \endgroup
13354 }
13355 \def\Hy@FormObjects{%
13356     \pdfobj {%
13357         <<%
13358             /Type/Encoding%
13359             /Differences[%
13360                 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13361                 /ring/tilde %
13362                 39/quotesingle %
13363                 96/grave %
13364                 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13365                 /fraction/guilsinglleft/guilsinglright/minus/perthousand%

```

```

13366      /quotedblbase/quotedblleft/quotedblright/quoteleft%
13367      /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13368      /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13369      160/Euro %
13370      164/currency %
13371      166/brokenbar %
13372      168/dieresis/copyright/ordfeminine %
13373      172/logicalnot/.notdef/registered/macron/degree/plusminus%
13374      /twosuperior/threesuperior/acute/mu %
13375      183/periodcentered/cedilla/onesuperior/ordmasculine %
13376      188/onequarter/onehalf/threequarters %
13377      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13378      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13379      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13380      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13381      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13382      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13383      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13384      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13385      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13386      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13387      ]%
13388      >>%
13389      }%
13390      \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13391      \pdfobj{%
13392      <<%
13393      /Type/Font%
13394      /Subtype/Type1%
13395      /Name/ZaDb%
13396      /BaseFont/ZapfDingbats%
13397      >>%
13398      }%
13399      \xdef\OBJ@ZaDb{\the\pdfastobj}%
13400      \pdfobj{%
13401      <<%
13402      /Type/Font%
13403      /Subtype/Type1%
13404      /Name/Helv%
13405      /BaseFont/Helvetica%
13406      /Encoding \OBJ@pdfdocencoding\space 0 R%
13407      >>%
13408      }%
13409      \xdef\OBJ@Helv{\the\pdfastobj}%
13410      \global\let\Hy@FormObjects\relax
13411      }
13412      </pdftex>

```

44.5 dvipdfm, xetex

D. P. Story adapted the pdf \TeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13413 <*\dvipdfm | xetex>
```

\@Gauge

```
13414 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13415 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13416 }
```

\@Form

```
13417 \def\@Form[#1]{%
13418 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13419 \kvsetkeys{Form}{#1}%
13420 \Hy@FormObjects
13421 \@pdfm@mark{obj @afields []}%
13422 \@pdfm@mark{obj @corder []}%
13423 \@pdfm@mark{%
13424   obj @aform <<%
13425     /Fields @afields%
13426     /DR<<%
13427     /Font<<%
13428     /ZaDb @OBJZaDb%
13429     /Helv @OBJHelv%
13430     >>%
13431     >>%
13432     /DA(/Helv 10 Tf 0 g)%
13433     /CO @corder%
13434     \ifHy@pdfa
13435     \else
13436     \ifHyField@NeedAppearances
13437     /NeedAppearances true%
13438     \fi
13439     \fi
13440     >>%
13441   }%
13442 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13443 }
```

\@endForm

```
13444 \let\@endForm\ltx@empty
```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```
13445 \def\dvipdfm@setdim{%
13446   height \the\ht\pdfm@box\space
13447   width \the\wd\pdfm@box\space
13448   depth \the\dp\pdfm@box\space
13449 }
```

\HyField@AnnotCount

```
13450 \newcount\HyField@AnnotCount
13451 \HyField@AnnotCount=\z@
```

\HyField@AdvanceAnnotCount

```
13452 \def\HyField@AdvanceAnnotCount{%
13453   \global\advance\HyField@AnnotCount\@ne
13454 }
```

\HyField@TheAnnotCount

```
13455 \def\HyField@TheAnnotCount{%
13456   \the\HyField@AnnotCount
13457 }
```

\Fld@pageobjref

```
13458 \def\Fld@pageobjref{/P @thispage}%
```

\HyField@AddToFields

```
13459 \def\HyField@AddToFields#1{%
13460   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
13461   \ifx\Fld@calculate@code\ltx@empty
13462   \else
13463     \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13464   \fi
13465 }
```

\@TextField

```
13466 \def\@TextField[#1]#2{% parameters, label
13467   \def\Fld@name{#2}%
13468   \let\Fld@default\ltx@empty
13469   \let\Fld@value\@empty
13470   \def\Fld@width{\DefaultWidthofText}%
13471   \def\Fld@height{%
13472     \ifFld@multiline
13473       \DefaultHeightofTextMultiline
13474     \else
13475       \DefaultHeightofText
13476     \fi
13477   }%
13478   \begingroup
13479     \expandafter\HyField@SetKeys\expandafter{%
13480       \DefaultOptionsofText,#1%
13481     }%
13482     \PDFForm@Name
13483     \HyField@FlagsText
13484     \ifFld@hidden\def\Fld@width{1sp}\fi
13485     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13486     \setbox\pdfm@box=\hbox{%
13487       \MakeTextField{\Fld@width}{\Fld@height}%
13488     }%
13489     \HyField@AdvanceAnnotCount
13490     \LayoutTextField{#2}{%
13491       \leavevmode
13492       \Hy@escapeform\PDFForm@Text
13493       \@pdfm@mark{%
13494         ann @text\HyField@TheAnnotCount\space
13495         \dvipdfm@setdim << \PDFForm@Text >>%
13496       }%
13497     }%
13498     \unhbox\pdfm@box
13499     \HyField@AddToFields{text}%
13500     % record in @afields array
13501   \endgroup
```

13502 }

\@ChoiceMenu

```
13503 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13504   \def\Fld@name{#2}%
13505   \let\Fld@default\relax
13506   \let\Fld@value\relax
13507   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13508   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13509   \begingroup
13510     \Fld@menulength=0 %
13511     \@tempdima\z@
13512     \@for\@curropt:=#3\do{%
13513       \expandafter\Fld@checkequals\@curropt==\%
13514       \Hy@StepCount\Fld@menulength
13515       \settowidth{\@tempdimb}{\@currDisplay}%
13516       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13517     }%
13518     \advance\@tempdima by 15\p@
13519     \begingroup
13520       \HyField@SetKeys{#1}%
13521     \edef\x{\endgroup
13522       \noexpand\expandafter
13523       \noexpand\HyField@SetKeys
13524       \noexpand\expandafter{%
13525         \expandafter\noexpand\csname DefaultOptionsof%
13526           \ifFld@radio
13527             Radio%
13528           \else
13529             \ifFld@combo
13530               \ifFld@popdown
13531                 PopdownBox%
13532               \else
13533                 ComboBox%
13534               \fi
13535             \else
13536               ListBox%
13537             \fi
13538           \fi
13539         \endcsname
13540       }%
13541     }\x
13542     \HyField@SetKeys{#1}%
13543     \PDFForm@Name
13544     \ifFld@hidden\def\Fld@width{1sp}\fi
13545     \ifx\Fld@value\relax
13546       \let\Fld@value\Fld@default
13547     \fi
13548     \LayoutChoiceField{#2}{%
13549       \ifFld@radio
13550         \HyField@FlagsRadioButton
13551         \@Radio{#3}%
13552       \else
13553         \begingroup
```

```

13554      \HyField@FlagsChoice
13555      \ifdim\Fld@width<\@tempdima
13556        \ifdim\@tempdima<1cm\@tempdima1cm\fi
13557        \edef\Fld@width{\the\@tempdima}%
13558      \fi
13559      \ifFld@combo
13560      \else
13561        \@tempdima=\the\Fld@menulength\Fld@charsize
13562        \advance\@tempdima by \Fld@borderwidth bp %
13563        \advance\@tempdima by \Fld@borderwidth bp %
13564        \edef\Fld@height{\the\@tempdima}%
13565      \fi
13566      \@@ListBox{#3}%
13567    \endgroup
13568  \fi
13569 }%
13570 \endgroup
13571 }

\@@Radio
13572 \def\@@Radio#1{%
13573   \Fld@listcount=0 %
13574   \EdefEscapeName\Fld@default{\Fld@default}%
13575   \setbox\pdfm@box=\hbox{%
13576     \MakeRadioField{\Fld@width}{\Fld@height}%
13577   }%
13578   \@for\@curropt:=#1\do{%
13579     \expandafter\Fld@checkequals\@curropt==\%
13580     \EdefEscapeName\@currValue{\@currValue}%
13581     \Hy@StepCount\Fld@listcount
13582     \@currDisplay\space
13583     \leavevmode
13584     \Hy@escapeform\PDFForm@Radio
13585     \ifnum\Fld@listcount=1 %
13586       \HyField@AdvanceAnnotCount
13587     \fi
13588     \@pdfm@mark{%
13589       ann %
13590       \ifnum\Fld@listcount=1 %
13591         @radio\HyField@TheAnnotCount%
13592         \space
13593       \fi
13594       \dvi pdfm@setdim
13595       <<%
13596       \PDFForm@Radio
13597       /AP<</N<</\@currValue /null>>>>%
13598       >>%
13599     }%
13600     \unhcopy\pdfm@box\space% deliberate space between radio buttons
13601     \ifnum\Fld@listcount=1 %
13602       \HyField@AddToFields{radio}%
13603     \fi
13604   }%
13605 }

```

```

\Fld@listcount
13606 \newcount\Fld@listcount

\@@Listbox
13607 \def\@@Listbox#1{%
13608   \HyField@PDFChoices{#1}%
13609   \setbox\pdfm@box=\hbox{%
13610     \MakeChoiceField{\Fld@width}{\Fld@height}%
13611   }%
13612   \leavevmode
13613   \Hy@escapeform\PDFForm@List
13614   \HyField@AdvanceAnnotCount
13615   \@pdfm@mark{%
13616     ann @list\HyField@TheAnnotCount\space
13617     \dvipdfm@setdim
13618     <<\PDFForm@List>>%
13619   }%
13620   \unhbox\pdfm@box
13621   \HyField@AddToFields{list}%
13622 }

\@PushButton
13623 \def\@PushButton[#1]#2{% parameters, label
13624   \def\Fld@name{#2}%
13625   \begingroup
13626     \expandafter\HyField@SetKeys\expandafter{%
13627       \DefaultOptionsofPushButton,#1%
13628     }%
13629     \PDFForm@Name
13630     \ifHy@pdfa
13631       \Hy@Error{%
13632         PDF/A: Push button with JavaScript is prohibited%
13633       }\@ehc
13634       \LayoutPushButtonField{%
13635         \leavevmode
13636         \MakeButtonField{#2}%
13637       }%
13638     \else
13639       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13640       \HyField@FlagsPushButton
13641       \ifFld@hidden\def\Fld@width{1sp}\fi
13642       \HyField@AdvanceAnnotCount
13643       \LayoutPushButtonField{%
13644         \leavevmode
13645         \Hy@escapeform\PDFForm@Push
13646         \@pdfm@mark{%
13647           ann @push\HyField@TheAnnotCount\space
13648           \dvipdfm@setdim
13649           <<\PDFForm@Push>>%
13650         }%
13651       }%
13652       \unhbox\pdfm@box
13653       \HyField@AddToFields{push}%
13654     \fi

```

```

13655 \endgroup
13656 }

\@Submit
13657 \def\@Submit[#1]#2{%
13658 \def\Fld@width{\DefaultWidthofSubmit}%
13659 \def\Fld@height{\DefaultHeightofSubmit}%
13660 \begingroup
13661 \expandafter\HyField@SetKeys\expandafter{%
13662 \DefaultOptionsofSubmit,#1%
13663 }%
13664 \HyField@FlagsPushButton
13665 \HyField@FlagsSubmit
13666 \ifFld@hidden\def\Fld@width{1sp}\fi
13667 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13668 \leavevmode
13669 \Hy@escapeform\PDFForm@Submit
13670 \HyField@AdvanceAnnotCount
13671 \@pdfm@mark{%
13672 ann @submit\HyField@TheAnnotCount\space
13673 \dvi pdfm@setdim
13674 <<\PDFForm@Submit>>%
13675 }%
13676 \unhbox\pdfm@box%
13677 \HyField@AddToFields{submit}%
13678 \endgroup
13679 }

\@Reset
13680 \def\@Reset[#1]#2{%
13681 \def\Fld@width{\DefaultWidthofReset}%
13682 \def\Fld@height{\DefaultHeightofReset}%
13683 \begingroup
13684 \expandafter\HyField@SetKeys\expandafter{%
13685 \DefaultOptionsofReset,#1%
13686 }%
13687 \leavevmode
13688 \ifHy@pdfa
13689 \Hy@Error{%
13690 PDF/A: Reset action is prohibited%
13691 }\@ehc
13692 \MakeButtonField{#2}%
13693 \else
13694 \HyField@FlagsPushButton
13695 \ifFld@hidden\def\Fld@width{1sp}\fi
13696 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13697 \Hy@escapeform\PDFForm@Reset
13698 \HyField@AdvanceAnnotCount
13699 \@pdfm@mark{%
13700 ann @reset\HyField@TheAnnotCount\space
13701 \dvi pdfm@setdim
13702 <<\PDFForm@Reset>>%
13703 }%
13704 \unhbox\pdfm@box

```



```

13705     \HyField@AddToFields{reset}%
13706     \fi
13707 \endgroup
13708 }

\@CheckBox
13709 \def\@CheckBox[#1]#2{% parameters, label
13710 \def\Fld@name{#2}%
13711 \def\Fld@default{0}%
13712 \begingroup
13713 \def\Fld@width{\DefaultWidthofCheckBox}%
13714 \def\Fld@height{\DefaultHeightofCheckBox}%
13715 \expandafter\HyField@SetKeys\expandafter{%
13716 \DefaultOptionsofCheckBox,#1%
13717 }%
13718 \PDFForm@Name
13719 \HyField@FlagsCheckBox
13720 \ifFld@hidden\def\Fld@width{1sp}\fi
13721 \setbox\pdfm@box=\hbox{%
13722 \MakeCheckField{\Fld@width}{\Fld@height}%
13723 }%
13724 \HyField@AdvanceAnnotCount
13725 \LayoutCheckField{#2}{%
13726 \leavevmode
13727 \Hy@escapeform\PDFForm@Check
13728 \@pdfm@mark{%
13729 ann @check\HyField@TheAnnotCount\space
13730 \dvi pdfm@setdim
13731 <<\PDFForm@Check>>%
13732 }%
13733 \unhbox\pdfm@box
13734 \HyField@AddToFields{check}%
13735 }%
13736 \endgroup
13737 }

13738 \def\Hy@FormObjects{%
13739 \@pdfm@mark{obj @OBJpdfdocencoding%
13740 <<%
13741 /Type/Encoding%
13742 /Differences[
13743 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13744 39/quotesingle %
13745 96/grave %
13746 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13747 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13748 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13749 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13750 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13751 160/Euro %
13752 164/currency %
13753 166/brokenbar %
13754 168/dieresis/copyright/ordfeminine %
13755 172/logicalnot/.notdef/registered/macron/degree/plusminus%

```

```

13756      /twosuperior/threesuperior/acute/mu %
13757      183/periodcentered/cedilla/onesuperior/ordmasculine %
13758      188/onequarter/onehalf/threequarters %
13759      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13760      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13761      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13762      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13763      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13764      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13765      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13766      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13767      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13768      /thorn/ydieresis%
13769      ]%
13770      >>%
13771      }%
13772      \@pdfm@mark{obj @OBJZaDb%
13773      <<%
13774      /Type/Font%
13775      /Subtype/Type1%
13776      /Name/ZaDb%
13777      /BaseFont/ZapfDingbats%
13778      >>%
13779      }%
13780      \@pdfm@mark{obj @OBJHelv%
13781      <<%
13782      /Type/Font%
13783      /Subtype/Type1%
13784      /Name/Helv%
13785      /BaseFont/Helvetica%
13786      /Encoding @OBJpdfdocencoding%
13787      >>%
13788      }%
13789      \global\let\Hy@FormObjects\relax
13790      }
13791      </dvipdfm | xetex>

```

44.6 Common forms part

```

13792 (*pdfform)

\Fld@pageobjref

13793 \providecommand*{\Fld@pageobjref}{}

\Hy@escapestring

13794 \@ifundefined{pdf@escapestring}
13795 {%
13796   \let\Hy@escapestring\@firstofone
13797   \def\Hy@escapeform#1{%
13798     \ifHy@pdfescapeform
13799       \def\Hy@escapestring##1{%
13800         \noexpand\Hy@escapestring{\noexpand##1}%
13801       }%
13802     \edef\Hy@temp{#1}%

```

```

13803 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{ }\@nil
13804 \def\Hy@escapestring##1{%
13805 \ifundefined{Hy@esc@\string##1}{%
13806 ##1%
13807 \ThisShouldNotHappen
13808 }{%
13809 \csname Hy@esc@\string##1\endcsname
13810 }%
13811 }%
13812 \else
13813 \let\Hy@escapestring\@firstofone
13814 \fi
13815 }%
13816 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13817 \ifx\#3\%
13818 \else
13819 \expandafter
13820 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13821 \ltx@ReturnAfterFi{%
13822 \Hy@@escapeform#3\@nil
13823 }%
13824 \fi
13825 }%
13826 }{%
13827 \def\Hy@escapeform#1{%
13828 \ifHy@pdfescapeform
13829 \let\Hy@escapestring\pdfescapestring
13830 \else
13831 \let\Hy@escapestring\@firstofone
13832 \fi
13833 }%
13834 \Hy@escapeform{ }%
13835 }

```

\PDFForm@Name

```

13836 \def\PDFForm@Name{%
13837 \PDFForm@@Name\Fld@name
13838 \ifx\Fld@altname\relax
13839 \else
13840 \PDFForm@@Name\Fld@altname
13841 \fi
13842 \ifx\Fld@mappingname\relax
13843 \else
13844 \PDFForm@@Name\Fld@mappingname
13845 \fi
13846 }

```

\PDFForm@@Name

```

13847 \def\PDFForm@@Name#1{%
13848 \begingroup
13849 \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13850 \ifHy@unicode
13851 \Hy@unicodefalse
13852 \fi

```

```

13853 \fi
13854 \pdfstringdef\Hy@gtemp#1%
13855 \endgroup
13856 \let#1\Hy@gtemp
13857 }

```

\Fld@additionalactions

```

13858 \def\Fld@@additionalactions{%
K input (keystroke) format
13859 \ifx\Fld@keystroke@code\@empty
13860 \else
13861 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13862 \fi

```

F display format

```

13863 \ifx\Fld@format@code\@empty
13864 \else
13865 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13866 \fi

```

V validation

```

13867 \ifx\Fld@validate@code\@empty
13868 \else
13869 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13870 \fi

```

C calculation

```

13871 \ifx\Fld@calculate@code\@empty
13872 \else
13873 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13874 \fi

```

Fo receiving the input focus

```

13875 \ifx\Fld@onfocus@code\@empty
13876 \else
13877 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13878 \fi

```

Bl loosing the input focus (blurred)

```

13879 \ifx\Fld@onblur@code\@empty
13880 \else
13881 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13882 \fi

```

D pressing the mouse button (down)

```

13883 \ifx\Fld@onmousedown@code\@empty
13884 \else
13885 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13886 \fi

```

U releasing the mouse button (up)

```

13887 \ifx\Fld@onmouseup@code\@empty
13888 \else
13889 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13890 \fi

```

E cursor enters the annotation's active area.

```
13891 \ifx\Fld@onenter@code\@empty
13892 \else
13893 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13894 \fi
```

X cursor exits the annotation's active area.

```
13895 \ifx\Fld@onexit@code\@empty
13896 \else
13897 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13898 \fi
13899 }
13900 \def\Fld@additionalactions{%
13901 \if\Fld@@additionalactions-%
13902 \else
13903 \ifHy@pdfa
13904 \else
13905 /AA<<\Fld@@additionalactions>>%
13906 \fi
13907 \fi
13908 }
```

\Fld@annotnames

```
13909 \def\Fld@annotnames{%
13910 /T(\Fld@name)%
13911 \ifx\Fld@altname\relax
13912 \else
13913 /TU(\Fld@altname)%
13914 \fi
13915 \ifx\Fld@mappingname\relax
13916 \else
13917 /TM(\Fld@mappingname)%
13918 \fi
13919 }
```

\PDFForm@Check

```
13920 \def\PDFForm@Check{%
13921 /Subtype/Widget%
13922 \Fld@annotflags
13923 \Fld@pageobjref
13924 \Fld@annotnames
13925 /FT/Btn%
13926 \Fld@flags
13927 /Q \Fld@align
13928 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13929 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
13930 /MK<<%
13931 \ifnum\Fld@rotation=z@
13932 \else
13933 /R \Fld@rotation
13934 \fi
13935 \ifx\Fld@bordercolor\relax
13936 \else
13937 /BC[\Fld@bordercolor]%

```

```

13938 \fi
13939 \ifx\Fld@bcolor\relax
13940 \else
13941 /BG[\Fld@bcolor]%
13942 \fi
13943 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13944 >>%
13945 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13946 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13947 /H/P%
13948 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
13949 \Fld@additionalactions
13950 }

```

\PDFForm@Push

```

13951 \ifHy@pdfa
13952 \else
13953 \def\PDFForm@Push{%
13954 /Subtype/Widget%
13955 \Fld@annotflags
13956 \Fld@pageobjref
13957 \Fld@annotnames
13958 /FT/Btn%
13959 \Fld@flags
13960 /H/P%
13961 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13962 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13963 \ifx\Fld@bordercolor\relax\else 1\fi
13964 \space
13965 \else
13966 /MK<<%
13967 \ifnum\Fld@rotation=\z@
13968 \else
13969 /R \Fld@rotation
13970 \fi
13971 \ifx\Fld@bordercolor\relax
13972 \else
13973 /BC[\Fld@bordercolor]%
13974 \fi
13975 >>%
13976 \fi
13977 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13978 \Fld@additionalactions
13979 }%
13980 \fi

```

\PDFForm@List

```

13981 \def\PDFForm@List{%
13982 /Subtype/Widget%
13983 \Fld@annotflags
13984 \Fld@pageobjref
13985 \Fld@annotnames
13986 /FT/Ch%
13987 \Fld@flags

```

```

13988 /Q \Fld@align
13989 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13990 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13991 \ifx\Fld@bordercolor\relax\else 1\fi
13992 \ifx\Fld@bcolor\relax \else 1\fi
13993 \space
13994 \else
13995 /MK<<%
13996 \ifnum\Fld@rotation=\z@
13997 \else
13998 /R \Fld@rotation
13999 \fi
14000 \ifx\Fld@bordercolor\relax
14001 \else
14002 /BC[\Fld@bordercolor]%
14003 \fi
14004 \ifx\Fld@bcolor\relax
14005 \else
14006 /BG[\Fld@bcolor]%
14007 \fi
14008 >>%
14009 \fi
14010 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14011 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14012 \Fld@choices
14013 \Fld@additionalactions
14014 }

```

\PDFForm@Radio

```

14015 \def\PDFForm@Radio{%
14016 /Subtype/Widget%
14017 \Fld@annotflags
14018 \Fld@pageobjref
14019 \Fld@annotnames
14020 /FT/Btn%
14021 \Fld@flags
14022 /H/P%
14023 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14024 /MK<<%
14025 \ifnum\Fld@rotation=\z@
14026 \else
14027 /R \Fld@rotation
14028 \fi
14029 \ifx\Fld@bordercolor\relax
14030 \else
14031 /BC[\Fld@bordercolor]%
14032 \fi
14033 \ifx\Fld@bcolor\relax
14034 \else
14035 /BG[\Fld@bcolor]%
14036 \fi
14037 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14038 >>%
14039 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%

```

```
14040 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
```

New code, the default value is used for all buttons

```
14041 \ifx\Fld@default\@empty
14042   /V/Off%
14043   /DV/Off%
14044 \else
14045   /V/\Fld@default
14046   /DV/\Fld@default
14047 \fi
14048 \Fld@additionalactions
14049 }
```

\PDFForm@Text

```
14050 \def\PDFForm@Text{%
14051   /Subtype/Widget%
14052   \Fld@annotflags
14053   \Fld@pageobjref
14054   \Fld@annotnames
14055   /FT/Tx%
14056   \Fld@flags
14057   /Q \Fld@align
14058   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14059   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14060     \ifx\Fld@bordercolor\relax\else 1\fi
14061     \ifx\Fld@bcolor\relax \else 1\fi
14062     \space
14063   \else
14064     /MK<<%
14065     \ifnum\Fld@rotation=\z@
14066     \else
14067       /R \Fld@rotation
14068     \fi
14069     \ifx\Fld@bordercolor\relax
14070     \else
14071       /BC[\Fld@bordercolor]%
14072     \fi
14073     \ifx\Fld@bcolor\relax
14074     \else
14075       /BG[\Fld@bcolor]%
14076     \fi
14077   >>%
14078   \fi
14079   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14080     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14081   /DV(\Hy@escapestring{\Fld@default})%
14082   /V(\Hy@escapestring{\Fld@value})%
14083   \Fld@additionalactions
14084   \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14085 }
```

\PDFForm@Submit

```
14086 \def\PDFForm@Submit{%
14087   /Subtype/Widget%
```



```

14088 \Fld@annotflags
14089 \Fld@pageobjref
14090 \Fld@annotnames
14091 /FT/Btn%
14092 \Fld@flags
14093 /H/P%
14094 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14095 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14096     \ifx\Fld@bordercolor\relax\else 1\fi
14097     \space
14098 \else
14099 /MK<<%
14100     \ifnum\Fld@rotation=\z@
14101     \else
14102     /R \Fld@rotation
14103     \fi
14104     \ifx\Fld@bordercolor\relax
14105     \else
14106     /BC[\Fld@bordercolor]%
14107     \fi
14108 >>%
14109 \fi
14110 /A<<%
14111 /S/SubmitForm%
14112 /F<<%
14113 /FS/URL%
14114 /F(\Hy@escapestring{\Form@action})%
14115 >>%
14116 \Fld@submitflags
14117 >>%
14118 \Fld@additionalactions
14119 }

```

\PDFForm@Reset

```

14120 \ifHy@pdfa
14121 \else
14122 \def\PDFForm@Reset{%
14123 /Subtype/Widget%
14124 \Fld@annotflags
14125 \Fld@pageobjref
14126 \Fld@annotnames
14127 /FT/Btn%
14128 \Fld@flags
14129 /H/P%
14130 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14131 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14132     \ifx\Fld@bordercolor\relax\else 1\fi
14133     \space
14134 \else
14135 /MK<<%
14136     \ifnum\Fld@rotation=\z@
14137     \else
14138     /R \Fld@rotation
14139     \fi

```

```

14140 \ifx\Fld@bordercolor\relax
14141 \else
14142 /BC[\Fld@bordercolor]%
14143 \fi
14144 % /CA (Clear)
14145 % /AC (Done)
14146 >>%
14147 \fi
14148 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14149 /A<</S/ResetForm>>%
14150 \Fld@additionalactions
14151 }%
14152 \fi

14153 </pdfform>
14154 <*packageEnd>

```

45 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`

```

14155 \def\phantomsection{%
14156 \Hy@MakeCurrentHrefAuto{section*}%
14157 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14158 }
14159 </packageEnd>

```

45.1 Bookmarks

```
14160 <*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 \BOOK-MARK commands in that file.

```

14161 \def\Hy@writebookmark#1#2#3#4#5{%
14162   % section number, text, label, level, file
14163   \ifx\WriteBookmarks\relax%
14164   \else
14165     \ifnum#4>\Hy@bookmarksdepth\relax
14166     \else
14167       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14168     \fi
14169   \fi
14170 }
14171 \def\Hy@currentbookmarklevel{0}
14172 \def\Hy@numberline#1{#1 }
14173 \def\@@writetorep#1#2#3#4#5{%
14174   \begingroup
14175   \edef\Hy@tempa{#5}%
14176   \ifx\Hy@tempa\Hy@bookmarkstype
14177     \edef\Hy@level{#4}%
14178     \ifx\Hy@levelcheck Y%
14179       \@tempcnta\Hy@level\relax
14180       \advance\@tempcnta by -1 %
14181       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14182         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14183         \advance\@tempcnta by 1 %
14184         \Hy@Warning{%
14185           Difference (\the\@tempcnta) between bookmark levels is %
14186           greater \MessageBreak than one, level fixed%
14187         }%
14188         \@tempcnta\Hy@currentbookmarklevel
14189         \advance\@tempcnta by 1 %
14190         \edef\Hy@level{\the\@tempcnta}%
14191       \fi
14192     \else
14193       \global\let\Hy@levelcheck Y%
14194     \fi
14195     \global\let\Hy@currentbookmarklevel\Hy@level
14196     \@tempcnta\Hy@level\relax
14197     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14198     \advance\@tempcnta by -1 %
14199     \edef\Hy@tempa{#3}%
14200     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14201     \ifx\Hy@tempa\Hy@tempb
14202       \Hy@Warning{%
14203         The anchor of a bookmark and its parent's must not%
14204         \MessageBreak be the same. Added a new anchor%
14205       }%
14206       \phantomsection
14207     \fi
14208     \ifHy@bookmarksnumbered
14209       \let\numberline\Hy@numberline
14210       \let\booknumberline\Hy@numberline
14211       \let\partnumberline\Hy@numberline
14212       \let\chapternumberline\Hy@numberline

```

```

14213 \else
14214 \let\numberline\@gobble
14215 \let\booknumberline\@gobble
14216 \let\partnumberline\@gobble
14217 \let\chapternumberline\@gobble
14218 \fi
14219 \pdfstringdef\Hy@tempa{#2}%
14220 \HyPsd@SanitizeForOutFile\Hy@tempa
14221 \if@filesw
14222 \stepcounter{bookmark@seq@number}%
14223 \@ifundefined{@outlinefile}{%
14224 }{%
14225 \protected@write{@outlinefile}{%
14226 \protect\BOOKMARK
14227 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14228 {\Hy@tempa}{\Hy@tempb}%
14229 \@percentchar\space\thebookmark@seq@number
14230 }%
14231 }%
14232 \fi
14233 \fi
14234 \endgroup
14235 }
14236 \newcounter{bookmark@seq@number}
14237 \begingroup
14238 \lccode`(\=`{%
14239 \lccode`)=`}%
14240 \lccode`1=\z@
14241 \lccode`2=\z@
14242 \lccode`3=\z@
14243 \lccode`5=\z@
14244 \lccode`7=\z@
14245 \lccode`\#=\z@
14246 \lccode``=\z@
14247 \lccode`\{=\z@
14248 \lccode`\}= \z@
14249 \lowercase{%
14250 \endgroup
14251 \def\HyPsd@SanitizeForOutFile#1{%
14252 \@onelevel@sanitize\Hy@tempa
14253 \escapechar`\\%
14254 \edef\Hy@tempa{%
14255 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14256 }%
14257 \edef\Hy@tempa{%
14258 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14259 }%
14260 }%
14261 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14262 #1%
14263 \ifx\#2\\%
14264 \expandafter\ltx@gobble
14265 \else
14266 \expandafter\ltx@firstofone

```

```

14267 \fi
14268 {%
14269 \string\173%
14270 \HyPsd@SanitizeOut@BraceLeft#2\@nil
14271 }%
14272 }%
14273 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14274 #1%
14275 \ifx\#2\%
14276 \expandafter\ltx@gobble
14277 \else
14278 \expandafter\ltx@firstofone
14279 \fi
14280 {%
14281 \string\175%
14282 \HyPsd@SanitizeOut@BraceRight#2\@nil
14283 }%
14284 }%
14285 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14286 \newcommand{\currentpdfbookmark}{%
14287 \pdfbookmark[\Hy@currentbookmarklevel]%
14288 }
14289 \newcommand{\subpdfbookmark}{%
14290 \@tempcnta\Hy@currentbookmarklevel
14291 \Hy@StepCount\@tempcnta
14292 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14293 }
14294 \newcommand{\belowpdfbookmark}[2]{%
14295 \@tempcnta\Hy@currentbookmarklevel
14296 \Hy@StepCount\@tempcnta
14297 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14298 \advance\@tempcnta by -1 %
14299 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14300 }

```

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.

```

14301 \renewcommand\pdfbookmark[3][0]{%
14302 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14303 \hyper@anchorstart{#3.#1}\hyper@anchorend
14304 }
14305 \def\BOOKMARK{%
14306 \ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14307 }
14308 \def\@BOOKMARK[#1]{%
14309 \ifnextchar{\@@BOOKMARK[#1]}{\@@BOOKMARK[#1][-]}%
14310 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

45.1.1 Rerun warning

\Hy@OutlineRerunCheck

```

14311 \RequirePackage{rerunfilecheck}[2009/12/10]
14312 \def\Hy@OutlineRerunCheck{%
14313   \RerunFileCheck{\jobname.out}{%
14314     \immediate\closeout\@outlinefile
14315   }{%
14316     Rerun to get outlines right\MessageBreak
14317     or use package `bookmark'%
14318   }%
14319 }
```

45.1.2 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.

```

14320 <*vtex>
14321 \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.

```

14322 \begingroup
14323   \catcode`\'=12 %
14324   \ifnum\Hy@VTeXversion<650 %
14325     \catcode`\#=12 %
14326     \gdef\hv@pdf@char#1#2#3{%
14327       \char
14328       \ifcase'#1#2#3 %
14329         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14330         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14331         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14332         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14333         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14334         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14335         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14336         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14337         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14338         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14339         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14340         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14341         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14342         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14343         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14344         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14345         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14346         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14347         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14348         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14349         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
```

```

14350 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14351 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14352 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14353 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14354 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14355 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14356 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14357 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14358 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14359 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14360 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14361 \fi
14362 }%
14363 \else
14364 \gdef\hv@pdf@char{\char'}%
14365 \fi
14366 \endgroup

```

\@@BOOKMARK

```

14367 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14368 \expandafter\edef\csname @count@#3\endcsname{%
14369 \the\@serial@counter
14370 }%
14371 \edef\@mycount{\the\@serial@counter}%
14372 \Hy@StepCount\@serial@counter
14373 \edef\@parcount{%
14374 \expandafter\ifx\csname @count@#5\endcsname\relax
14375 0%
14376 \else
14377 \csname @count@#5\endcsname
14378 \fi
14379 }%
14380 \immediate\special{%
14381 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14382 s=\ifx#2-c\else o\fi,t=#4%
14383 }%
14384 }%

```

\ReadBookmarks

```

14385 \def\ReadBookmarks{%
14386 \begingroup
14387 \def\0{\hv@pdf@char 0}%
14388 \def\1{\hv@pdf@char 1}%
14389 \def\2{\hv@pdf@char 2}%
14390 \def\3{\hv@pdf@char 3}%
14391 \def\({}%
14392 \def\)}%
14393 \def\do##1{%
14394 \ifnum\catcode`##1=\active
14395 \@makeother##1%
14396 \else
14397 \ifnum\catcode`##1=6 %
14398 \@makeother##1%
14399 \fi

```

```

14400 \fi
14401 }%
14402 \dospecials
14403 \Hy@safe@activetrue
14404 \InputIfFileExists{\jobname.out}{-}{-}%
14405 \endgroup
14406 \ifx\WriteBookmarks\relax
14407 \else
14408 \if@filesw
14409 \newwrite\@outlinefile
14410 \Hy@OutlineRerunCheck
14411 \immediate\openout\@outlinefile=\jobname.out\relax
14412 \fi
14413 \fi
14414 }

14415 </vtex>
14416 <!*vtex>
14417 \def\ReadBookmarks{%
14418 \pdf@ifdraftmode{-}{-}%
14419 \begingroup
14420 \def\do##1{%
14421 \ifnum\catcode`##1=\active
14422 \@makeother##1%
14423 \else
14424 \ifnum\catcode`##1=6 %
14425 \@makeother##1%
14426 \fi
14427 \fi
14428 }%
14429 \dospecials
14430 \Hy@safe@activetrue
14431 \escapechar=`\%
14432 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14433 \calc@bm@number{##5}%
14434 }%
14435 \InputIfFileExists{\jobname.out}{-}{-}%
14436 \ifx\WriteBookmarks\relax
14437 \global\let\WriteBookmarks\relax
14438 \fi
14439 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14440 \def\Hy@temp{##4}%
14441 <*pdfTeX>
14442 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14443 \Hy@OutlineName{}\Hy@pstringName{%
14444 ##2\check@bm@number{##3}%
14445 }{%
14446 \expandafter\strip@prefix\meaning\Hy@temp
14447 }%
14448 </pdfTeX>
14449 <*pdfmark>
14450 \pdfmark{%
14451 pdfmark=/OUT,%
14452 Count={##2\check@bm@number{##3}},%

```



```

14453     Dest={##3},%
14454     Title=\expandafter\strip@prefix\meaning\Hy@temp
14455 }%
14456 </pdfmark>
14457 <*/dvipdfm | xetex>
14458     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14459     \@pdfm@mark{%
14460         outline \ifHy@DvipdfmxOutlineOpen
14461             [%
14462             \ifnum##21>\z@
14463             \else
14464             -%
14465             \fi
14466             ] %
14467             \fi
14468             ##1<<%
14469             /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14470             /A<<%
14471             /S/GoTo%
14472             /D(\Hy@pstringName)%
14473             >>%
14474             >>%
14475             }%
14476 </dvipdfm | xetex>
14477 }%
14478 \begingroup
14479 \def\WriteBookmarks{0}%
14480 \InputIfFileExists{jobname.out}{-}{-}%
14481 \endgroup
14482 %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14483 \endgroup
14484 }%
14485 \ifx\WriteBookmarks\relax
14486 \else
14487 \if@filesw
14488 \newwrite\@outlinefile
14489 \Hy@OutlineRerunCheck
14490 \immediate\openout\@outlinefile=jobname.out\relax
14491 \fi
14492 \fi
14493 }
14494 <*/pdfTeX>
14495 \def\Hy@OutlineName#1#2#3#4{%
14496 \pdfoutline goto name{#2}count#3{#4}%
14497 }
14498 </pdfTeX>
14499 \def\check@bm@number#1{%
14500 \expandafter\ifx\csname B_#1\endcsname\relax
14501 0%
14502 \else
14503 \csname B_#1\endcsname
14504 \fi
14505 }
14506 \def\calc@bm@number#1{%

```

```

14507 \@tempcnta=\check@bm@number{#1}\relax
14508 \advance\@tempcnta by 1 %
14509 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14510 }
14511 \</!vtx>

14512 \ifHy@implicit
14513 \else
14514 \expandafter\endinput
14515 \fi

14516 \</outlines>
14517 \<*outlines | hypertex>

14518 \newlength\Hy@SectionHShift
14519 \def\Hy@SectionAnchorHref#1{%
14520 \ifx\protect\@typeset@protect
14521 \Hy@@@SectionAnchor{#1}%
14522 \fi
14523 }
14524 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14525 \leavevmode
14526 \hbox to 0pt{%
14527 \kern-\Hy@SectionHShift
14528 \Hy@raisedlink{%
14529 \hyper@anchorstart{#1}\hyper@anchorend
14530 }%
14531 \hss
14532 }%
14533 }
14534 \@ifundefined{hyper@nopatch@sectioning}
14535 {
14536 \let\H@old@ssect\@ssect
14537 \def\@ssect#1#2#3#4#5{%
14538 \Hy@MakeCurrentHrefAuto{section*}%
14539 \setlength{\Hy@SectionHShift}{#1}%
14540 \begingroup
14541 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14542 \toks\tw@\expandafter{%
14543 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14544 #5%
14545 }%
14546 \edef\x{\endgroup
14547 \the\toks@{\the\toks\tw@}}%
14548 }\x
14549 }
14550 \let\H@old@schapter\@schapter
14551 \def\@schapter#1{%
14552 \begingroup
14553 \let\@mkboth\@gobbletwo
14554 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14555 \Hy@raisedlink{%
14556 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14557 }%
14558 \endgroup
14559 \H@old@schapter{#1}%

```

14560 }

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:

```
14561 \ltx@ifundefined{@chapter}{}{%
14562   \let\Hy@org@chapter\@chapter
14563   \def\@chapter{%
14564     \def\Hy@next{%
14565       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14566       \Hy@raisedlink{%
14567         \hyper@anchorstart{\@currentHref}\hyper@anchorend
14568       }%
14569     }%
14570     \ifnum\c@secnumdepth>\m@ne
14571       \ltx@ifundefined{if@mainmatter}%
14572       \iftrue{\csname if@mainmatter\endcsname}%
14573       \let\Hy@next\relax
14574     \fi
14575   \fi
14576   \Hy@next
14577   \Hy@org@chapter
14578 }%
14579 }

14580 \let\H@old@part\@part
14581 \@ifundefined{chapter}
14582   {\let\Hy@secnum@part\z@}
14583   {\let\Hy@secnum@part\m@ne}
14584 \def\@part{%
14585   \ifnum\Hy@secnum@part>\c@secnumdepth
14586     \phantomsection
14587   \fi
14588   \H@old@part
14589 }

14590 \let\H@old@spart\@spart
14591 \def\@spart#1{%
14592   \Hy@MakeCurrentHrefAuto{part*}%
14593   \Hy@raisedlink{%
14594     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14595   }%
14596   \H@old@spart{#1}%
14597 }

14598 \let\H@old@sect\@sect
14599 \def\@sect#1#2#3#4#5#6[#7]#8{%
14600   \ifnum #2>\c@secnumdepth
14601     \expandafter\@firstoftwo
14602   \else
14603     \expandafter\@secondoftwo
14604   \fi
14605   {%
14606     \Hy@MakeCurrentHrefAuto{section*}%
14607     \setlength{\Hy@SectionHShift}{#3}%
14608     \begingroup
```

```

14609 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{{#7}}}%
14610 \toks\tw@\expandafter{%
14611 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14612 #8%
14613 }%
14614 \edef\x{\endgroup
14615 \the\toks@{\the\toks\tw@}%
14616 }\x
14617 }{%
14618 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{{#7}}{#8}%
14619 }%
14620 }
14621 }{}

14622 </outlines | hypertex>
14623 <*outlines>

14624 \expandafter\def\csname Parent-4\endcsname{}
14625 \expandafter\def\csname Parent-3\endcsname{}
14626 \expandafter\def\csname Parent-2\endcsname{}
14627 \expandafter\def\csname Parent-1\endcsname{}
14628 \expandafter\def\csname Parent0\endcsname{}
14629 \expandafter\def\csname Parent1\endcsname{}
14630 \expandafter\def\csname Parent2\endcsname{}
14631 \expandafter\def\csname Parent3\endcsname{}
14632 \expandafter\def\csname Parent4\endcsname{}

14633 </outlines>

```

46 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

46.1 PD1 encoding

```

14634 <*pd1enc>
14635 \DeclareFontEncoding{PD1}{}{}

Accents
14636 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14637 \DeclareTextAccent{\'}{PD1}{\textacute}
14638 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
14639 \DeclareTextAccent{\~}{PD1}{\texttilde}
14640 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14641 \DeclareTextAccent{\r}{PD1}{\textring}
14642 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14643 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14644 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14645 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14646 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14647 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14648 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14649 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14650 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}

```

```

14651 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14652 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14653 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14654 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14655 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14656 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14657 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14658 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14659 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14660 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14661 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14662 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14663 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14664 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14665 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14666 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14667 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14668 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14669 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14670 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14671 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14672 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}}{#1}
14673 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}}{#1}
14674 \DeclareTextCommand{\newtie}{PD1}[1]{%
14675   \TextSymbolUnavailable{\newtie{#1}}}{#1}%
14676 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14677 % U+0009 (CHARACTER TABULATION)
14678 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14679 % U+000A (LINE FEED)
14680 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14681 % U+000D (CARRIAGE RETURN)
14682 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14683 % U+02D8 BREVE; breve
14684 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14685 % U+02C7 CARON; caron
14686 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14687 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14688 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14689 % U+02D9 DOT ABOVE; dotaccent
14690 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14691 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14692 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14693 % U+02DB OGONEK; ogonek
14694 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14695 % U+02DA RING ABOVE; ring
14696 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14697 % U+02DC SMALL TILDE; ilde, *tilde
14698 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14699 % U+0022 QUOTATION MARK; quotedbl
 14700 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
 14701 % U+0023 NUMBER SIGN; numbersign
 14702 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
 14703 % U+0024 DOLLAR SIGN; dollar
 14704 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
 14705 % U+0025 PERCENT SIGN; percent
 14706 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
 14707 % U+0026 AMPERSAND; ampersand
 14708 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026
 \047: U+0027 APOSTROPHE; quotesingle

 14709 % U+0028 LEFT PARENTHESIS; parenleft
 14710 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 14711 % U+0029 RIGHT PARENTHESIS; parenright
 14712 \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
 14713 % U+002E FULL STOP; period
 14714 \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
 14715 % U+003C LESS-THAN SIGN; less
 14716 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14717 % U+003E GREATER-THAN SIGN; greater
 14718 \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
 14719 % U+005C REVERSE SOLIDUS; backslash
 14720 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 14721 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 14722 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14723 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14724 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14725 % U+005F LOW LINE; underscore
 14726 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14727 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14728 % U+0060 GRAVE ACCENT; grave

14729 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
\141: U+0061 LATIN SMALL LETTER A; a
...
\150: U+0068 LATIN SMALL LETTER H; h
14730 % U+0069 LATIN SMALL LETTER I; i
14731 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
\152: U+006A LATIN SMALL LETTER J; j
...
\172: U+007A LATIN SMALL LETTER Z; z
14732 % U+007B LEFT CURLY BRACKET; braceleft
14733 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
14734 % U+007C VERTICAL LINE; *bar, verticalbar
14735 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
14736 % U+007D RIGHT CURLY BRACKET; braceright
14737 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
14738 % U+007E TILDE; asciitilde
14739 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
Slot \177 (0x7F) is undefined in PDFDocEncoding.
14740 % U+2022 BULLET; bullet
14741 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
14742 % U+2020 DAGGER; dagger
14743 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
14744 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
14745 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
14746 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}
14747 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
14748 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
14749 % U+2014 EM DASH; emdash
14750 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
14751 % U+2013 EN DASH; endash
14752 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
14753 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
14754 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
14755 % U+2044 FRACTION SLASH; fraction
14756 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
14757 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
inglleft
14758 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
14759 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-
inglright
14760 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
14761 % U+2212 MINUS SIGN; minus
14762 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14763 % U+2030 PER MILLE SIGN; perthousand
14764 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14765 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14766 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14767 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14768 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14769 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14770 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14771 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14772 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018

14773 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14774 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14775 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14776 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14777 % U+2122 TRADE MARK SIGN; trademark
 14778 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14779 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14780 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 14781 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14782 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 14783 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14784 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 14785 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14786 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 14787 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 14788 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 14789 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14790 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
 14791 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
 14792 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14793 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 14794 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 14795 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 14796 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14797 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 14798 % U+0153 LATIN SMALL LIGATURE OE; oe
 14799 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 14800 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 14801 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 14802 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14803 \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.
 14804 % U+20AC EURO SIGN; *Euro, euro
 14805 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 14806 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14807 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14808 % U+00A2 CENT SIGN; cent
 14809 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14810 % U+00A3 POUND SIGN; sterling
 14811 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14812 % U+00A4 CURRENCY SIGN; currency
 14813 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14814 % U+00A5 YEN SIGN; yen
 14815 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14816 % U+00A6 BROKEN BAR; brokenbar
 14817 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14818 % U+00A7 SECTION SIGN; section
 14819 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14820 % U+00A8 DIAERESIS; dieresis
 14821 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14822 % U+00A9 COPYRIGHT SIGN; copyright
 14823 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14824 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine

14825 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14826 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
14827 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14828 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB
14829 % U+00AC NOT SIGN; logicalnot
14830 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14831 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
No glyph \255 in PDFDocEncoding.
14832 % U+00AE REGISTERED SIGN; registered
14833 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14834 % U+00AF MACRON; *macron, overscore
14835 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14836 % U+00B0 DEGREE SIGN; degree
14837 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14838 % U+00B1 PLUS-MINUS SIGN; plusminus
14839 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14840 % U+00B2 SUPERSCRIPT TWO; twosuperior
14841 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
14842 % U+00B3 SUPERSCRIPT THREE; threesuperior
14843 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
14844 % U+00B4 ACUTE ACCENT; acute
14845 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14846 % U+00B5 MICRO SIGN; mu, mul
14847 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14848 % U+00B6 PILCROW SIGN; paragraph
14849 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14850 % U+00B7 MIDDLE DOT; middot, *periodcentered
14851 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14852 % U+00B8 CEDILLA; cedilla
14853 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14854 % U+00B9 SUPERSCRIPT ONE; onesuperior
14855 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
14856 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14857 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14858 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
14859 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14860 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB
14861 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14862 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14863 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14864 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14865 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14866 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14867 % U+00BF INVERTED QUESTION MARK; questiondown
14868 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14869 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14870 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14871 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14872 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14873 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14874 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14875 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14876 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14877 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis

14878 \DeclareTextCompositeCommand{"}{PD1}{A}{\304}% U+00C4
14879 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14880 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14881 % U+00C6 LATIN CAPITAL LETTER AE; AE
14882 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14883 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14884 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14885 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14886 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14887 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14888 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14889 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14890 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14891 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14892 \DeclareTextCompositeCommand{"}{PD1}{E}{\313}% U+00CB
14893 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14894 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14895 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14896 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14897 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14898 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14899 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14900 \DeclareTextCompositeCommand{"}{PD1}{I}{\317}% U+00CF
14901 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14902 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14903 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14904 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14905 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14906 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14907 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14908 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14909 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14910 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14911 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14912 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14913 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14914 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14915 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6
14916 % U+00D7 MULTIPLICATION SIGN; multiply
14917 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14918 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14919 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14920 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14921 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14922 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14923 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14924 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14925 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14926 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14927 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14928 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14929 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14930 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
14931 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE

14932 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
14933 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14934 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14935 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14936 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14937 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14938 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14939 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14940 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14941 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14942 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14943 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14944 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14945 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14946 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14947 % U+00E6 LATIN SMALL LETTER AE; ae
14948 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14949 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14950 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14951 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14952 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14953 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14954 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14955 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14956 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14957 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14958 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14959 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14960 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14961 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14962 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14963 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14964 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14965 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14966 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14967 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14968 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14969 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14970 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14971 % U+00F0 LATIN SMALL LETTER ETH; eth
14972 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
14973 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14974 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
14975 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14976 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
14977 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14978 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
14979 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14980 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
14981 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14982 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
14983 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14984 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
14985 % U+00F7 DIVISION SIGN; divide

```

14986 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
14987 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14988 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
14989 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14990 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
14991 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14992 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
14993 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14994 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB
14995 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14996 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC
14997 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14998 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14999 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15000 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15001 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15002 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15003 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF
15004 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15005 \DeclareTextCommand{\SS}{PD1}{SS}%
15006 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15007 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15008 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15009 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15010 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15011 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15012 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15013 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15014 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15015 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15016 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15017 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15018 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15019 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15020 \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).

```

15021 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15022 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15023 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15024 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15025 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15026 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15027 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15028 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15029 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15030 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15031 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute

```

```

15032 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15033 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15034 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15035 </pd1enc>

```

46.2 PU encoding

```

15036 <*puenc>
15037 \DeclareFontEncoding{PU}{}{}

```

46.2.1 NFSS2 accents

```

15038 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15039 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15040 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15041 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15042 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15043 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15044 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15045 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15046 % U+0304 COMBINING MACRON; macroncmb
15047 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15048 % U+0306 COMBINING BREVE; brevecmb
15049 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15050 \ifx\CYRDZE\@undefined \else
15051 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15052 \fi
15053 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15054 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15055 % U+0308 COMBINING DIAERESIS; dieresiscmb
15056 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15057 % U+030A COMBINING RING ABOVE; ringcmb
15058 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15059 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15060 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15061 % U+030C COMBINING CARON; caroncmb
15062 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15063 </puenc>
15064 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15065 (puextra)\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15066 <*puenc>
15067 \ifx\CYRDZE\@undefined \else
15068 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15069 \fi
15070 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15071 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15072 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15073 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15074 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15075 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15076 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15077 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15078 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15079 % U+0327 COMBINING CEDILLA; cedillacmb

```

```

15080 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15081 % U+0328 COMBINING OGONEK; ogonekcmb
15082 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15083 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15084 % \textsubcircum (tipa)
15085 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15086 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15087 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15088 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15089 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15090 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15091 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15092 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
15093 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15094 % U+20DD COMBINING ENCLOSING CIRCLE
15095 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15096 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15097 \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.

```

15098 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15099 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15100 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
15101 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15102 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15103 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15104 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15105 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15106 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15107 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15108 (/puenc)
15109 (puextra)\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15110 (*puenc)
15111 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15112 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15113 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15114 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15115 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15116 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15117 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}%
15118 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15119 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15120 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15121 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15122 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15123 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15124 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15125 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U
15126 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U
15127 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%

```

```

15128 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15129 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15130 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15131 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15132 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15133 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15134 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15135 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15136 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15137 </puenc>
15138 <puextra>\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15139 <*puenc>
15140 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15141 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15142 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15143 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{ \83\021\}}% U+0311
15144 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{ \83\044\}}% U+0324
15145 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15146 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15147 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{ \83\056\}}% U+032E
15148 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%
15149 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15150 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15151 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15152 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15153 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15154 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{ \83\001\83\004\}}% U+0301 U+0304
15155 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{ \83\000\83\004\}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15156 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15157 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15158 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15159 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15160 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15161 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15162 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\">{#1}}%
15163 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15164 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15165 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15166 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15167 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15168 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}%
15169 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15170 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

46.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15171 % U+0009 (CHARACTER TABULATION)
15172 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15173 % U+000A (LINE FEED)
15174 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15175 % U+000D (CARRIAGE RETURN)
15176 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

\80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 15177 % U+0022 QUOTATION MARK; quotedbl
 15178 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
 15179 % U+0023 NUMBER SIGN; numbersign
 15180 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 15181 % U+0024 DOLLAR SIGN; dollar
 15182 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 15183 %* \textdollar -> \mathdollar
 15184 %* \textdollar -> \EyesDollar (marvosym)
 15185 % U+0025 PERCENT SIGN; percent
 15186 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
 15187 % U+0026 AMPERSAND; ampersand
 15188 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
 15189 %* \textampersand -> \binampersand (stmaryrd)
 15190 %* \textampersand -> \with (cml)
 15191 % U+0027 APOSTROPHE; quotesingle
 15192 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
 15193 % U+0028 LEFT PARENTHESIS; parenleft
 15194 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
 15195 % U+0029 RIGHT PARENTHESIS; parenright
 15196 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
 15197 % U+002A ASTERISK; asterisk; (?)
 15198 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
 15199 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
 15200 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
 15201 % U+002C COMMA; comma; \MVComma (marvosym)
 15202 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
 15203 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
 15204 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
 15205 % U+002E FULL STOP; period; \MVPeriod (marvosym)
 15206 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
 15207 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
 15208 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
 15209 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
 15210 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
 15211 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
 15212 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
 15213 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
 15214 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
 15215 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
 15216 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
 15217 % U+0034 DIGIT FOUR; four; \MVFfour (marvosym)
 15218 \DeclareTextCommand{\textMVFfour}{PU}{\80\064}%* U+0034
 15219 % U+0035 DIGIT FIVE; five; \MVFfive (marvosym)
 15220 \DeclareTextCommand{\textMVFfive}{PU}{\80\065}%* U+0035
 15221 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
 15222 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
 15223 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
 15224 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
 15225 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
 15226 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
 15227 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
 15228 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039

$\backslash 80\backslash 072$: U+003A COLON; colon
 $\backslash 80\backslash 073$: U+003B SEMICOLON; semicolon
15229 % U+003C LESS-THAN SIGN; less
15230 $\backslash \text{DeclareTextCommand}\{\backslash \text{textless}\}\{\text{PU}\}\{<\}\%$ $\backslash 80\backslash 074$ U+003C
 $\backslash 80\backslash 075$: U+003D EQUALS SIGN; equal
15231 % U+003E GREATER-THAN SIGN; greater
15232 $\backslash \text{DeclareTextCommand}\{\backslash \text{textgreater}\}\{\text{PU}\}\{>\}\%$ $\backslash 80\backslash 076$ U+003E
 $\backslash 80\backslash 077$: U+003F QUESTION MARK; question
15233 % U+0040 COMMERCIAL AT; at; $\backslash \text{MVAt}$ (marvosym)
15234 $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVAt}\}\{\text{PU}\}\{\backslash 80\backslash 100\}\%$ U+0040
 $\backslash 80\backslash 101$: U+0041 LATIN CAPITAL LETTER A; A
...
 $\backslash 80\backslash 132$: U+005A LATIN CAPITAL LETTER Z; Z
 $\backslash 80\backslash 133$: U+005B LEFT SQUARE BRACKET; bracketleft
15235 % U+005C REVERSE SOLIDUS; backslash
15236 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbackslash}\}\{\text{PU}\}\{\backslash 80\backslash 134\}\%$ U+005C
 $\backslash 80\backslash 135$: U+005D RIGHT SQUARE BRACKET; bracketright
15237 % U+005E CIRCUMFLEX ACCENT; asciicircum
15238 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciicircum}\}\{\text{PU}\}\{\backslash 80\backslash 136\}\%$ U+005E
15239 % U+005F LOW LINE; underscore
15240 $\backslash \text{DeclareTextCommand}\{\backslash \text{textunderscore}\}\{\text{PU}\}\{\backslash 80\backslash 137\}\%$ U+005F
15241 %* $\backslash \text{textunderscore} \rightarrow \backslash \text{mathunderscore}$ (LaTeX)
15242 % U+0060 GRAVE ACCENT; grave
15243 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciigrave}\}\{\text{PU}\}\{\backslash 80\backslash 140\}\%$ U+0060
 $\backslash 80\backslash 141$: U+0061 LATIN SMALL LETTER A; a
...
 $\backslash 80\backslash 150$: U+0068 LATIN SMALL LETTER H; h
15244 % U+0069 LATIN SMALL LETTER I; i
15245 $\backslash \text{DeclareTextCompositeCommand}\{\backslash \cdot\}\{\text{PU}\}\{\backslash i\}\{i\}\%$ $\backslash 80\backslash 151$ U+0069
15246 $\backslash \text{DeclareTextCompositeCommand}\{\backslash \cdot\}\{\text{PU}\}\{\backslash i\}\{i\}\%$ $\backslash 80\backslash 151$ U+0069
 $\backslash 80\backslash 152$: U+006A LATIN SMALL LETTER J; j
...
 $\backslash 80\backslash 172$: U+007A LATIN SMALL LETTER Z; z
15247 % U+007B LEFT CURLY BRACKET; braceleft
15248 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceleft}\}\{\text{PU}\}\{\backslash 80\backslash 173\}\%$ U+007B
15249 % U+007C VERTICAL LINE; *bar, verticalbar
15250 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbar}\}\{\text{PU}\}\{\backslash |\}\%$ $\backslash 80\backslash 174$ U+007C
15251 %* $\backslash \text{textbar} \rightarrow \backslash \text{textvertline}$ (tipa)
15252 % U+007D RIGHT CURLY BRACKET; braceright
15253 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceright}\}\{\text{PU}\}\{\backslash 80\backslash 175\}\%$ U+007D
15254 % U+007E TILDE; asciitilde
15255 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciitilde}\}\{\text{PU}\}\{\backslash 80\backslash 176\}\%$ U+007E

46.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
15256 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15257 $\backslash \text{DeclareTextCommand}\{\backslash \text{textexclamdown}\}\{\text{PU}\}\{\backslash 80\backslash 241\}\%$ U+00A1
15258 % U+00A2 CENT SIGN; cent

```

15259 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
15260 % U+00A3 POUND SIGN; sterling
15261 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
15262 %* \textsterling -> \mathsterling (LaTeX)
15263 %* \textsterling -> \pounds (LaTeX)
15264 % U+00A4 CURRENCY SIGN; currency
15265 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15266 % U+00A5 YEN SIGN; yen
15267 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15268 % U+00A6 BROKEN BAR; brokenbar
15269 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
15270 %* \textbrokenbar -> \brokenvert (wasysym)
15271 % U+00A7 SECTION SIGN; section
15272 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15273 %* \textsection -> \mathsection (LaTeX)
15274 %* \textsection -> \S (LaTeX)
15275 % U+00A8 DIAERESIS; dieresis
15276 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15277 % U+00A9 COPYRIGHT SIGN; copyright
15278 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15279 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15280 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15281 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
15282 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15283 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB
15284 % U+00AC NOT SIGN; logicalnot
15285 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15286 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sftyphen, softyphen
15287 % U+00AE REGISTERED SIGN; registered
15288 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15289 % U+00AF MACRON; *macron, overscore
15290 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15291 % U+00B0 DEGREE SIGN; degree
15292 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15293 % U+00B1 PLUS-MINUS SIGN; plusminus
15294 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15295 % U+00B2 SUPERScript TWO; twosuperior
15296 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15297 % U+00B3 SUPERScript THREE; threesuperior
15298 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15299 % U+00B4 ACUTE ACCENT; acute
15300 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15301 \DeclareTextCommand{\textasciacute}{PU}{\80\264}% U+00B4
15302 % U+00B5 MICRO SIGN; mu, mul
15303 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15304 % U+00B6 PILCROW SIGN; paragraph
15305 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15306 %* \textparagraph -> \mathparagraph (LaTeX)
15307 % U+00B7 MIDDLE DOT; middot, *periodcentered
15308 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15309 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15310 %* \textperiodcentered -> \Squaredot (marvosym)
15311 % U+00B8 CEDILLA; cedilla

```

15312 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15313 % U+00B9 SUPERSCRIPT ONE; onesuperior
15314 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15315 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15316 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15317 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
15318 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15319 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB
15320 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15321 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15322 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15323 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15324 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15325 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15326 % U+00BF INVERTED QUESTION MARK; questiondown
15327 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15328 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15329 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15330 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15331 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15332 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15333 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15334 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15335 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15336 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15337 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4
15338 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15339 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15340 % U+00C6 LATIN CAPITAL LETTER AE; AE
15341 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15342 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15343 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15344 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15345 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15346 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15347 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15348 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15349 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15350 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15351 \DeclareTextCompositeCommand{\\"}{PU}{E}{\80\313}% U+00CB
15352 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15353 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15354 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15355 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15356 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15357 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15358 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15359 \DeclareTextCompositeCommand{\\"}{PU}{I}{\80\317}% U+00CF
15360 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15361 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15362 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15363 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15364 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15365 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2

15366 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15367 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15368 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15369 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15370 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15371 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15372 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15373 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
15374 % U+00D7 MULTIPLICATION SIGN; multiply
15375 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15376 %* \textmultiply -> \vartimes (stmaryrd)
15377 %* \textmultiply -> \MVMultiplication (marvosym)
15378 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15379 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15380 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15381 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15382 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15383 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15384 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15385 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15386 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15387 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15388 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15389 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15390 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15391 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15392 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
15393 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15394 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15395 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15396 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15397 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15398 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15399 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15400 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15401 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15402 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15403 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15404 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
15405 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15406 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15407 % U+00E6 LATIN SMALL LETTER AE; ae
15408 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15409 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15410 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15411 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15412 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15413 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15414 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15415 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15416 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15417 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15418 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15419 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave

15420 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15421 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15422 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15423 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15424 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15425 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15426 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15427 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15428 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15429 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15430 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15431 % U+00F0 LATIN SMALL LETTER ETH; eth
15432 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15433 %* \dh -> \eth (wsuipa, phonetic)
15434 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15435 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
15436 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15437 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
15438 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15439 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
15440 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15441 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
15442 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15443 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
15444 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15445 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
15446 % U+00F7 DIVISION SIGN; divide
15447 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15448 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15449 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15450 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15451 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
15452 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15453 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
15454 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15455 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
15456 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15457 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
15458 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15459 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
15460 % U+00FE LATIN SMALL LETTER THORN; thorn;
15461 % \th, \thorn (wasysym), \textthorn (tipa)
15462 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
15463 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
15464 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15465 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

46.2.4 Latin Extended-A: U+0080 to U+017F

15466 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
15467 \DeclareTextCompositeCommand{=} {PU}{A}{\81\000}% U+0100
15468 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
15469 \DeclareTextCompositeCommand{=} {PU}{a}{\81\001}% U+0101
15470 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve

15471 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
15472 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
15473 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
15474 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
15475 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
15476 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
15477 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
15478 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
15479 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15480 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15481 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
15482 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15483 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15484 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15485 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15486 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
15487 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15488 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15489 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15490 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15491 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15492 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15493 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15494 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15495 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15496 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15497 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15498 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15499 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15500 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
15501 % \textcrd (tipa)
15502 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15503 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111
15504 %* \textcrd -> \crossd (wsuipa)
15505 % An alternate glyph with the stroke through the bowl:
15506 %* \textcrd -> \textbard (tipa)
15507 %* \textcrd -> \bard (wsuipa)
15508 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15509 \DeclareTextCompositeCommand{=} {PU}{E}{\81\022}% U+0112
15510 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15511 \DeclareTextCompositeCommand{=} {PU}{e}{\81\023}% U+0113
15512 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15513 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15514 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15515 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15516 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15517 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15518 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15519 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15520 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15521 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15522 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15523 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119

15524 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15525 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15526 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15527 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15528 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15529 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15530 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15531 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15532 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15533 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15534 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15535 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15536 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-
cent
15537 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15538 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15539 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
15540 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-
maaccent
15541 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15542 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15543 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15544 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15545 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15546 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15547 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15548 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15549 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15550 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (Ams)
15551 \DeclareTextCommand{\texthbar}{PU}{\81\047}%* U+0127
15552 %* \texthbar -> \textcrh (tipa)
15553 %* \texthbar -> \crossh (wsuipa)
15554 %* \texthbar -> \planck (phonetic)
15555 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15556 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15557 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15558 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15559 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15560 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15561 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15562 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15563 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15564 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15565 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15566 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15567 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15568 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15569 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15570 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15571 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15572 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15573 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15574 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15575 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent

15576 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
 15577 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 15578 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
 15579 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
 15580 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
 15581 % U+0133 LATIN SMALL LIGATURE IJ; ij
 15582 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
 15583 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
 15584 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
 15585 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
 15586 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
 15587 \DeclareTextCompositeCommand{\^}{PU}{\j}{\81\065}% U+0135
 15588 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
 cent
 15589 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15590 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15591 \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`.

15592 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 15593 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 15594 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 15595 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 15596 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 15597 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 15598 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
 cent
 15599 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 15600 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 15601 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 15602 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 15603 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 15604 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 15605 \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`.

15606 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
 cent
 15607 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 15608 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 15609 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 15610 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 15611 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 15612 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 15613 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 15614 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 15615 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 15616 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 15617 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 15618 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
 cent

15619 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15620 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15621 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15622 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15623 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15624 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15625 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15626 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
15627 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15628 % U+014A LATIN CAPITAL LETTER ENG; Eng
15629 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15630 % U+014B LATIN SMALL LETTER ENG; eng
15631 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15632 %* \ng -> \eng (wsuipa)
15633 %* \ng -> \engma (phonetic)
15634 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15635 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
15636 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15637 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
15638 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15639 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15640 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15641 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15642 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
15643 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15644 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
15645 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15646 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15647 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15648 % U+0153 LATIN SMALL LIGATURE OE; oe
15649 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15650 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15651 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
15652 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15653 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
15654 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
15655 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15656 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15657 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15658 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15659 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15660 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15661 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15662 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15663 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
15664 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15665 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
15666 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15667 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
15668 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex

15669 \DeclareTextCompositeCommand{\~}{PU}{s}{\81\135}% U+015D
15670 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15671 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15672 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15673 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15674 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15675 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15676 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15677 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15678 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent
15679 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15680 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15681 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15682 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15683 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15684 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15685 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15686 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15687 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15688 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15689 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15690 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15691 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15692 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15693 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15694 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15695 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15696 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15697 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15698 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15699 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15700 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15701 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
15702 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15703 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15704 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15705 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15706 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
cute, Uhungarumlaut
15707 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15708 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-
cute, uhungarumlaut
15709 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15710 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15711 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15712 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15713 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15714 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15715 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15716 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15717 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15718 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15719 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176

15720 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15721 \DeclareTextCompositeCommand{\`}{PU}{y}{\81\167}% U+0177
 15722 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15723 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15724 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15725 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15726 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15727 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15728 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15729 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15730 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15731 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15732 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15733 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15734 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15735 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15736 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15737 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

46.2.5 Latin Extended-B: U+0180 to U+024F

15738 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
 15739 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
 15740 %* \textcrb -> \crossb (wsuipa)
 15741 % An alternate glyph with the stroke through the bowl:
 15742 %* \textcrb -> \textbarb (tipa)
 15743 %* \textcrb -> \barb (wsuipa)
 15744 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-
 netic)
 15745 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%* U+0181
 15746 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
 15747 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188
 15748 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-
 netic)
 15749 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%* U+018A
 15750 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed
 15751 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E
 15752 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
 15753 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15754 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15755 %* \textflorin -> \Florin (marvosym)
 15756 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
 15757 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
 15758 %* \texthvlig -> \hv (wsuipa)
 15759 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
 netic)
 15760 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%* U+0198
 15761 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
 15762 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
 15763 %* \texthtk -> \hausak (phonetic)
 15764 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
 15765 % \textbarl (tipa), \barl (wsuipa)
 15766 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
 15767 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
 15768 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;

15769 % \textcrlambda (tipa)
 15770 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
 15771 %* \textcrlambda -> \crossnilambda (wsuipa)
 15772 %* \textcrlambda -> \barlambda (phonetic)
 15773 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
 15774 %* \textcrlambda -> \lambdaslash (txfonts/pxfonts)
 15775 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
 long;
 15776 % \textnrleg (tipx)
 15777 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
 15778 %* \textPUnrleg -> \textnrleg (tipx)
 15779 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)
 15780 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5
 15781 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
 15782 % \textlhookt (tipa)
 15783 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
 15784 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
 15785 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
 15786 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
 15787 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
 15788 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
 15789 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
 15790 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
 15791 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
 15792 % glottalinvertedstroke; \textcrinvglotstop (tipa)
 15793 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
 15794 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
 15795 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
 15796 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
 tal;
 15797 % \textpipe (tipa)
 15798 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
 15799 %* \textpipe -> \textpipevar (tipx)
 15800 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
 15801 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
 15802 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
 15803 %* \textdoublepipe -> \textdoublepipevar (tipx)
 15804 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
 BLE BAR;
 15805 % clickalveolar; \textdoublebarpipe (tipa)
 15806 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
 15807 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
 15808 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15809 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15810 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15811 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15812 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15813 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15814 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15815 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15816 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15817 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15818 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15819 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron

15820 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15821 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15822 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15823 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15824 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15825 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
15826 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
15827 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15828 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15829 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15830 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15831 %* \textgslash -> \textcrg (tipa)
15832 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15833 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15834 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15835 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15836 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15837 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15838 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15839 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15840 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15841 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15842 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15843 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15844 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15845 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15846 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15847 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15848 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15849 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15850 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15851 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15852 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15853 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15854 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
15855 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15856 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15857 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15858 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15859 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
15860 % *Oslashacute, Ostrokeacute
15861 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15862 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
15863 % *oslashacute, ostrokeacute
15864 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15865 </puenc>
15866 <*puextra>
15867 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15868 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15869 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15870 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15871 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15872 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15873 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave

15874 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15875 </puextra>
15876 <*puenc>
15877 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
15878 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
15879 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-
breve
15880 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
15881 </puenc>
15882 <*puextra>
15883 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15884 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15885 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15886 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15887 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15888 </puextra>
15889 <*puenc>
15890 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-
breve
15891 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
15892 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-
breve
15893 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15894 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15895 </puenc>
15896 <*puextra>
15897 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15898 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15899 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15900 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15901 </puextra>
15902 <*puenc>
15903 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-
edbreve
15904 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
15905 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
breve
15906 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
15907 </puenc>
15908 <*puextra>
15909 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15910 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15911 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15912 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15913 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15914 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15915 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15916 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15917 </puextra>
15918 <*puenc>
15919 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
edbreve
15920 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216

15921 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uninverted-
 breve
 15922 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
 15923 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15924 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15925 % U+021F LATIN SMALL LETTER H WITH CARON
 15926 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15927 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)
 15928 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
 15929 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
 15930 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225
 15931 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15932 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15933 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15934 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15935 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15936 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15937 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15938 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15939 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15940 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15941 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15942 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15943 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15944 \DeclareTextCompositeCommand{=} {PU}{Y}{\82\062}% U+0232
 15945 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15946 \DeclareTextCompositeCommand{=} {PU}{y}{\82\063}% U+0233
 15947 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 15948 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 15949 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 15950 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236
 15951 % U+0237 LATIN SMALL LETTER DOTLESS J
 15952 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 15953 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)
 15954 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238
 15955 %* \textPUdblig -> \textdblig (tipx)
 15956 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 15957 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239
 15958 %* \textPUqplig -> \textqplig (tipx)
 15959 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 15960 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 15961 %* \textslashc -> \textcentoldstyle (textcomp)
 15962 % With bar instead of stroke:
 15963 %* \textslashc -> \textbarc (tipa)

46.2.6 IPA Extensions: U+0250 to U+02AF

15964 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 15965 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 15966 %* \textturna -> \inva (wasysym)
 15967 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 15968 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 15969 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 15970 %* \textscripta -> \vara (phonetic)
 15971 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;

15972 % \textturnscripta (tipa)
 15973 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 15974 %* \textturnscripta -> \invscripta (wsuipa)
 15975 %* \textturnscripta -> \rotvara (phonetic)
 15976 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 15977 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 15978 %* \texthtb -> \hookb (wsuipa)
 15979 %* \texthtb -> \hausab (phonetic)
 15980 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 15981 % \textopeno (tipa), \openo (wasysym)
 15982 \DeclareTextCommand{\textopeno}{PU}{\82\124}% U+0254
 15983 %* \textopeno -> \varopeno (phonetic)
 15984 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 15985 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 15986 %* \textctc -> \curlyc (wsuipa)
 15987 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 15988 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256
 15989 %* \textrtaild -> \taild (wsuipa)
 15990 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 15991 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 15992 %* \texthtd -> \hookd (wsuipa)
 15993 %* \texthtd -> \hausad (phonetic)
 15994 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 15995 % \textreve (tipa), \reve (wsuipa)
 15996 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258
 15997 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 15998 % \textschwa (tipa), \schwa (wsuipa, phonetic)
 15999 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259
 16000 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
 16001 % \textrhookschwa (tipa)
 16002 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
 16003 %* \textrhookschwa -> \er (wsuipa)
 16004 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
 SILON; eopen;
 16005 % \niepsilon (wsuipa)
 16006 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B
 16007 %* \textniepsilon -> \epsi (phonetic)
 16008 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
 16009 % \textrevepsilon (tipa), \revepsilon (wsuipa)
 16010 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C
 16011 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
 reversedhook;
 16012 % \textrhookrevepsilon (tipa)
 16013 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D
 16014 %* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)
 16015 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
 reversedclosed;
 16016 % \textcloserevepsilon (tipa)
 16017 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E
 16018 %* \textcloserevepsilon -> \closedrevepsilon (wsuipa)
 16019 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
 lessstroke;
 16020 % \textbardotlessj (tipa)
 16021 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F

16022 %* \textbardotlessj -> \barj (phonetic)
 16023 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
 16024 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
 16025 %* \texthtg -> \hookg (wsuipa)
 16026 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
 16027 % \textscriptg (tipa), \scriptg (wsuipa)
 16028 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261
 16029 %* \textscriptg -> \varg (phonetic)
 16030 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
 16031 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262
 16032 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinssmall;
 16033 % \ipagamma (wsuipa), \vod (phonetic)
 16034 \DeclareTextCommand{\textipagamma}{PU}{\82\143}% U+0263
 16035 %* \textipagamma -> \vod (pnonetic)
 16036 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
 16037 % \babygamma (wsuipa)
 16038 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}% U+0264
 16039 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
 16040 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
 16041 %* \textturnh -> \invh (wsuipa)
 16042 %* \textturnh -> \udesc (phonetic)
 16043 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
 16044 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266
 16045 %* \texthth -> \hookh (wsuipa)
 16046 %* \texthth -> \voicedh (phonetic)
 16047 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-
 ththeng (tipa)
 16048 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267
 16049 %* \texththeng -> \hookheng (wsuipa)
 16050 % U+0268 LATIN SMALL LETTER I WITH STROKE;
 16051 % \textbari (tipa), \bari (wsuipa)
 16052 \DeclareTextCommand{\textbari}{PU}{\82\150}% U+0268
 16053 %* \textbari -> \ibar (phonetic)
 16054 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)
 16055 \DeclareTextCommand{\textniiota}{PU}{\82\151}% U+0269
 16056 %* \textniiota -> \vari (phonetic)
 16057 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
 16058 \DeclareTextCommand{\textsci}{PU}{\82\152}% U+026A
 16059 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
 16060 % \textltilde (tipa)
 16061 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
 16062 %* \textltilde -> \tildel (wsuipa)
 16063 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)
 16064 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
 16065 %* \textbeltl -> \latfric (wsuipa)
 16066 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
 16067 % \hookretroflex; \textrtaill (tipa)
 16068 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D
 16069 %* \textrtaill -> \taill (wsuipa)
 16070 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)
 16071 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
 16072 %* \textlyoghlig -> \lz (wsuipa)
 16073 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)
 16074 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F

16075 %* \textturnm -> \invm (wsuipa)
16076 %* \textturnm -> \rotm (phonetic)
16077 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-
turned;
16078 % \textturnmrleg (tipa)
16079 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270
16080 %* \textturnmrleg -> \legm (wsuipa)
16081 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)
16082 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
16083 %* \textltailm -> \labdentainas (wsuipa)
16084 %* \textltailm -> \emgma (phonetic)
16085 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-
tailn (tipa)
16086 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
16087 %* \textltailn -> \nj (wsuipa)
16088 %* \textltailn -> \enya (phonetic)
16089 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
16090 % nhookretroflex; \textrtailn (tipa)
16091 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273
16092 %* \textrtailn -> \tailn (wsuipa)
16093 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
16094 \DeclareTextCommand{\textscn}{PU}{\82\164}% U+0274
16095 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
16096 % LATIN CAPITAL LETTER BARRED O; obarred;
16097 % \textbaro (tipa), \baro (wsuipa)
16098 % But \baro from stmaryrd is different!
16099 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
16100 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)
16101 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276
16102 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;
16103 % \textcloseomega (tipa)
16104 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
16105 %* \textcloseomega -> \closedniomega (wsuipa)
16106 %* \textcloseomega -> \varomega (phonetic)
16107 % U+0278 LATIN SMALL LETTER PHI; philatin; \niphy (wsuipa)
16108 \DeclareTextCommand{\textniphy}{PU}{\82\170}% U+0278
16109 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
16110 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
16111 %* \textturnr -> \invr (wsuipa)
16112 %* \textturnr -> \rotr (phonetic)
16113 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
16114 % rlonglegturned; \textturnlongleg (tipa)
16115 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
16116 %* \textturnlongleg -> \invleg (wsuipa)
16117 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;
16118 % \textturnrrtail (tipa)
16119 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
16120 %* \textturnrrtail -> \tailinvr (wsuipa)
16121 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-
glegr (tipa)
16122 \DeclareTextCommand{\textlongleg}{PU}{\82\174}% U+027C
16123 %* \textlongleg -> \leg (wsuipa)
16124 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)
16125 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D

16126 %* \textrtailr -> \tailr (wsuipa)
16127 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;
16128 % \textfishhookr (tipa)
16129 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
16130 %* \textfishhookr -> \flapr (wsuipa)
16131 %* \textfishhookr -> \flap (phonetic)
16132 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;
16133 % \textlhtlongi (tipa)
16134 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
16135 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)
16136 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16137 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16138 % \textinvscr (tipa), \invscr (wsuipa)
16139 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16140 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)
16141 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282
16142 %* \textrtails -> \tails (wsuipa)
16143 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16144 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16145 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16146 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16147 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16148 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatreversed;
16149 % \textvibyi (tipa)
16150 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16151 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16152 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16153 %* \textctesh -> \curlyesh (wsuipa)
16154 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16155 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16156 %* \textturnt -> \clickt (wsuipa)
16157 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflexhook;
16158 % \textrtailt (tipa)
16159 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288
16160 %* \textrtailt -> \tailt (wsuipa)
16161 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16162 % \textbaru (tipa), \baru (wsuipa)
16163 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16164 %* \textbaru -> \ubar (phonetic)
16165 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16166 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16167 %* \textniupsilon -> \rotOmega (phonetic)
16168 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;
16169 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16170 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16171 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16172 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16173 %* \textturnv -> \invv (wsuipa)
16174 %* \textturnv -> \pwedge (phonetic)
16175 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)

16176 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16177 %* \textturnw -> \invw (wsuipa)
16178 %* \textturnw -> \rotw (phonetic)
16179 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16180 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16181 %* \textturny -> \invy (wsuipa)
16182 %* \textturny -> \roty (phonetic)
16183 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
16184 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16185 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
hook;
16186 % \textrtailz (tipa)
16187 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290
16188 %* \textrtailz -> \tailz (wsuipa)
16189 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
16190 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
16191 %* \textctz -> \curlyz (wsuipa)
16192 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
16193 % \textyogh (tipa), \yogh (wsuipa)
16194 \DeclareTextCommand{\textyogh}{PU}{\82\222}%* U+0292
16195 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-
TER YOGH CURL;
16196 % ezhcurl; \textctyogh (tipa)
16197 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
16198 %* \textctyogh -> \curlyyogh (wsuipa)
16199 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
16200 % \textglotstop (tipa), \glotstop (wsuipa)
16201 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%* U+0294
16202 %* \textglotstop -> \ejective (wsuipa)
16203 %* \textglotstop -> \glottal (phonetic)
16204 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
16205 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
16206 % \textrevglotstop (tipa), \revglotstop (wsuipa)
16207 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%* U+0295
16208 %* \textrevglotstop -> \reveject (wsuipa)
16209 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
16210 % \textinvglotstop (tipa), \invglotstop (wsuipa)
16211 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%* U+0296
16212 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
16213 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
16214 %* \textstretchc -> \clickc (wsuipa)
16215 %* \textstretchc -> \textstretchcvar (tipx)
16216 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
16217 % \textbullseye (tipa)
16218 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
16219 %* \textbullseye -> \clickb (wsuipa)
16220 %* \textbullseye -> \textObullseye (tipx)
16221 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
16222 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
16223 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;
16224 % \textclosepsilon (tipa)
16225 \DeclareTextCommand{\textclosepsilon}{PU}{\82\232}% U+029A
16226 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
16227 % \texthtscg (tipa)

16228 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
 16229 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
 16230 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
 16231 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcros-
 tail; \textcdj (tipa)
 16232 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
 16233 %* \textctj -> \textctjvar (tipx)
 16234 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)
 16235 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
 16236 %* \textturnk -> \textturnsck (tipx)
 16237 % U+029F LATIN LETTER SMALL CAPITAL L; \textscsl (tipa)
 16238 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F
 16239 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
 16240 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
 16241 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-
 stroke;
 16242 % \textbarglotstop (tipa)
 16243 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
 16244 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
 16245 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-
 versed;
 16246 % \textbarrevglotstop (tipa)
 16247 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
 16248 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
 16249 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
 16250 %* \textdzlig -> \dz (wsupipa)
 16251 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
 lig (tipa)
 16252 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
 16253 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
 16254 % \textdctzlig (tipa)
 16255 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
 16256 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
 16257 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
 16258 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)
 16259 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7
 16260 %* \textteshlig -> \tesh (wsuipa)
 16261 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 16262 % \texttctclig (tipa)
 16263 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 16264 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 16265 % \textlhtlongy (tipa)
 16266 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 16267 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 16268 % \textvibyy (tipa)
 16269 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

46.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16270 % U+02BD MODIFIER LETTER REVERSED COMMA;
 16271 % commareversedmod, afi64937; \textrevapostrophe (tipa)
 16272 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 16273 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 16274 % \textraiseglotstop (tipa)
 16275 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0

16276 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 16277 % \textlptr (tipa)
 16278 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
 16279 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 16280 % \textrptr (tipa)
 16281 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
 16282 % U+02C7 CARON; caron
 16283 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 16284 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
 16285 % \textprimstress (tipa)
 16286 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
 16287 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
 16288 % \textsecstress (tipa)
 16289 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
 16290 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
 16291 % \textlengthmark (tipa)
 16292 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
 16293 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
 16294 % \texthalflength (tipa)
 16295 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
 16296 % U+02D8 BREVE; breve
 16297 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 16298 % U+02D9 DOT ABOVE; dotaccent
 16299 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 16300 % U+02DA RING ABOVE; ring
 16301 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 16302 % U+02DB OGONEK; ogonek
 16303 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 16304 % U+02DC SMALL TILDE; ilde, *tilde
 16305 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 16306 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 16307 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 16308 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
 16309 % U+02F3 MODIFIER LETTER LOW RING
 16310 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
 16311 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
 16312 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
 16313 % U+02F7 MODIFIER LETTER LOW TILDE
 16314 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
 16315 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
 16316 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
 16317 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
 16318 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

46.2.8 Combining Diacritical Marks: U+0300 to U+036F

16319 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
 16320 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
 16321 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
 16322 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
 16323 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
 16324 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
 16325 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
 16326 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331

16327 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb

16328 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

46.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if \textBeta is defined.

16329 \ifx\textBeta\@undefined \else

16330 \input{puenc-greekbasic.def}

16331 \fi

16332 \end{puenc}

16333 \end{pugreek}

16334 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek

16335 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374

16336 \DeclareTextCommand{\textdexiakeraia}{PU}{\83\164}% U+0374

16337 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek

16338 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375

16339 \DeclareTextCommand{\textaristerikeraia}{PU}{\83\165}% U+0375

16340 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanon

16341 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386

16342 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonon

16343 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388

16344 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonon

16345 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389

16346 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonon

16347 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A

16348 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonon

16349 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C

16350 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononon

16351 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E

16352 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonon

16353 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F

16354 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;

16355 % iotadieresisonon

16356 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390

16357 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha

16358 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391

16359 % U+0392 GREEK CAPITAL LETTER BETA; Beta

16360 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392

16361 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)

16362 \DeclareTextCommand{\textGamma}{PU}{\83\223}% U+0393

16363 % U+0394 GREEK CAPITAL LETTER DELTA; Delta; \Delta (LaTeX)

16364 \DeclareTextCommand{\textDelta}{PU}{\83\224}% U+0394

16365 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon

16366 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395

16367 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta

16368 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396

16369 % U+0397 GREEK CAPITAL LETTER ETA; Eta

16370 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397

16371 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)

16372 \DeclareTextCommand{\textTheta}{PU}{\83\230}% U+0398

16373 % U+0399 GREEK CAPITAL LETTER IOTA; Iota

16374 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399

16375 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16376 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16377 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16378 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16379 % U+039C GREEK CAPITAL LETTER MU; Mu
16380 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16381 % U+039D GREEK CAPITAL LETTER NU; Nu
16382 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
16383 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16384 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16385 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16386 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16387 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16388 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16389 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16390 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16391 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16392 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16393 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16394 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16395 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16396 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16397 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16398 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16399 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
16400 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16401 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16402 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16403 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16404 % \Omega (LaTeX)
16405 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16406 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16407 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16408 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
16409 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silonadieresis
16410 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
16411 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16412 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
16413 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilontonos
16414 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
16415 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos
16416 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
16417 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos
16418 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
16419 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16420 % AND TONOS; upsilonadieresis
16421 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0
16422 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16423 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16424 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16425 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16426 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16427 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3


```

16428 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16429 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16430 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16431 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16432 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16433 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16434 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16435 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16436 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16437 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16438 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16439 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16440 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16441 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16442 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16443 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16444 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16445 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16446 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16447 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16448 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16449 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16450 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16451 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16452 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16453 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16454 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16455 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
16456 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16457 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16458 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16459 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16460 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16461 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16462 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16463 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16464 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16465 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16466 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16467 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16468 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16469 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16470 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16471 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16472 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16473 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
16474 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
    silondieresis
16475 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
16476 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
16477 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
16478 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
16479 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
16480 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD

```

```

16481 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
16482 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
16483 % U+03D8 GREEK LETTER ARCHAIC KOPPA;
16484 \DeclareTextCommand{\textQoppa}{PU}{\83\330}% U+03D8
16485 % U+03D9 GREEK SMALL LETTER ARCHAIC KOPPA;
16486 \DeclareTextCommand{\textqoppa}{PU}{\83\331}% U+03D9
16487 % U+03DA GREEK LETTER STIGMA; Stigmatreek
16488 \DeclareTextCommand{\textStigmatreek}{PU}{\83\332}% U+03DA
16489 \DeclareTextCommand{\textStigma}{PU}{\83\332}% U+03DA
16490 % U+03DB GREEK SMALL LETTER STIGMA
16491 \DeclareTextCommand{\textstigmatreek}{PU}{\83\333}% U+03DB
16492 \DeclareTextCommand{\textstigma}{PU}{\83\333}% U+03DB
16493 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16494 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16495 \DeclareTextCommand{\textDigamma}{PU}{\83\334}% U+03DC
16496 % U+03DD GREEK SMALL LETTER DIGAMMA
16497 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16498 \DeclareTextCommand{\textdigamma}{PU}{\83\335}% U+03DD
16499 %* \textdigammagreek -> \digamma (AmS)
16500 % U+03DE GREEK LETTER KOPPA; Koppagreek
16501 \DeclareTextCommand{\textKoppa}{PU}{\83\336}% U+03DE
16502 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16503 % U+03DF GREEK SMALL LETTER KOPPA
16504 \DeclareTextCommand{\textkoppa}{PU}{\83\337}% U+03DF
16505 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16506 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16507 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16508 \DeclareTextCommand{\textSampi}{PU}{\83\340}% U+03E0
16509 % U+03E1 GREEK SMALL LETTER SAMPI
16510 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16511 \DeclareTextCommand{\textsampi}{PU}{\83\341}% U+03E1
16512 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16513 % \backepsilon (AmS)
16514 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6
16515 \pugreek

```

46.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names. Cyrillic only loaded if \CYRDZE is defined.

```

16516 (*puenc)
16517 \ifx\CYRDZE\@undefined \else
16518 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16519 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400
16520 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afi10023
16521 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16522 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16523 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afi10051
16524 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16525 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afi10052
16526 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16527 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afi10053
16528 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16529 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afi10054

```

16530 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16531 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16532 % Icyrillic, *afii10055
16533 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16534 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
16535 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16536 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407
16537 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16538 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16539 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16540 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16541 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16542 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16543 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16544 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16545 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16546 \DeclareTextCompositeCommand{'}{PU}{\CYRK}{\84\014}% U+040C
16547 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16548 \DeclareTextCompositeCommand`{PU}{\CYRI}{\84\015}% U+040D
16549 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
16550 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16551 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
16552 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
16553 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16554 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16555 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16556 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16557 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16558 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16559 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16560 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16561 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16562 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16563 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16564 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16565 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
16566 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
16567 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
16568 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
16569 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
16570 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
16571 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
16572 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
16573 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
16574 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
16575 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
16576 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
16577 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
16578 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
16579 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
16580 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
16581 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
16582 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
16583 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032

16584 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
16585 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
16586 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
16587 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
16588 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
16589 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
16590 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
16591 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
16592 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
16593 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
16594 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
16595 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
16596 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
16597 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
16598 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
16599 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
16600 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
16601 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
16602 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
16603 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
16604 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
16605 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
16606 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
16607 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
16608 % Hardsigncyrillic, *afii10044
16609 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
16610 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
16611 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
16612 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
16613 % Softsigncyrillic, *afii10046
16614 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
16615 % U+042D CYRILLIC CAPITAL LETTER E; Eversedcyrillic, *afii10047
16616 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
16617 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
16618 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
16619 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
16620 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
16621 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
16622 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
16623 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
16624 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
16625 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
16626 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
16627 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
16628 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
16629 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
16630 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
16631 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
16632 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
16633 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
16634 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
16635 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
16636 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
16637 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic

16638 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
16639 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
16640 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
16641 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
16642 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
16643 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
16644 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
16645 \DeclareTextCommand{\cyr}{PU}{\84\073}% U+043B
16646 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
16647 \DeclareTextCommand{\cyr}{PU}{\84\074}% U+043C
16648 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
16649 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
16650 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
16651 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
16652 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
16653 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
16654 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
16655 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440
16656 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
16657 \DeclareTextCommand{\cyr}{PU}{\84\101}% U+0441
16658 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
16659 \DeclareTextCommand{\cyr}{PU}{\84\102}% U+0442
16660 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
16661 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443
16662 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
16663 \DeclareTextCommand{\cyr}{PU}{\84\104}% U+0444
16664 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
16665 \DeclareTextCommand{\cyr}{PU}{\84\105}% U+0445
16666 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
16667 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446
16668 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
16669 \DeclareTextCommand{\cyr}{PU}{\84\107}% U+0447
16670 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
16671 \DeclareTextCommand{\cyr}{PU}{\84\110}% U+0448
16672 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
16673 \DeclareTextCommand{\cyr}{PU}{\84\111}% U+0449
16674 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
16675 \DeclareTextCommand{\cyr}{PU}{\84\112}% U+044A
16676 %* \cyrhrdsn -> \hardsign (tipa)
16677 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
16678 \DeclareTextCommand{\cyr}{PU}{\84\113}% U+044B
16679 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
16680 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C
16681 %* \cyr}{PU}{\84\114}% U+044C
16682 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
16683 \DeclareTextCommand{\cyr}{PU}{\84\115}% U+044D
16684 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
16685 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E
16686 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
16687 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F
16688 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
16689 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450
16690 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic

16691 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
16692 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
16693 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
16694 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
16695 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
16696 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
16697 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
16698 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
16699 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
16700 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
16701 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
16702 % *afii10103, icyrillic
16703 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
16704 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
16705 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
16706 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
16707 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
16708 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
16709 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
16710 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
16711 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
16712 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
16713 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
16714 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
16715 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
16716 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
16717 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
16718 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D
16719 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
16720 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
16721 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
16722 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
16723 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
16724 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
16725 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
16726 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
16727 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
16728 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
16729 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
16730 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
16731 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
16732 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
16733 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
16734 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
16735 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
16736 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic
16737 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
16738 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic
16739 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
16740 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-
otifiedcyrillic
16741 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
16742 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-
fiedcyrillic

16743 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
16744 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
16745 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
16746 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
16747 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
16748 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
16749 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
16750 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
cyrillic
16751 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
16752 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
16753 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
16754 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
16755 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
16756 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
16757 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
16758 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
16759 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
16760 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
16761 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
16762 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
16763 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
16764 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
16765 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
16766 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
16767 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
16768 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
16769 % GRAVE ACCENT; Izhitsadblgravecyrillic
16770 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
16771 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
16772 % GRAVE ACCENT; izhitsadblgravecyrillic
16773 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
16774 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
16775 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
16776 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
16777 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
16778 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-
lic
16779 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
16780 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
16781 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
16782 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatit-
locyrillic
16783 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
16784 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-
cyrillic
16785 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
16786 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
16787 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
16788 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
16789 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
16790 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
16791 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480

16792 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16793 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16794 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16795 \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; dasiapneumatacyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrilliccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 16796 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16797 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16798 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16799 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16800 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16801 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16802 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16803 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16804 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16805 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16806 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16807 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16808 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, *afii10050
 16809 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16810 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 16811 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16812 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic
 16813 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16814 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16815 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16816 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
 16817 % Ghemiddlehookcyrillic
 16818 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16819 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
 16820 % ghemiddlehookcyrillic
 16821 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16822 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
 16823 % Zhedescendercyrillic
 16824 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16825 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
 16826 % zhedescendercyrillic
 16827 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16828 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 16829 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16830 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498

16831 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-cyrillic
 16832 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 16833 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16834 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 16835 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16836 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 16837 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 16838 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
 16839 % Kavertikalstrokecyrillic
 16840 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16841 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
 16842 % kavertikalstrokecyrillic
 16843 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16844 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16845 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16846 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16847 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 16848 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16849 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16850 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16851 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16852 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 16853 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16854 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 16855 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16856 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16857 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16858 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16859 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16860 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 16861 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16862 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 16863 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16864 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 16865 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16866 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16867 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16868 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 16869 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16870 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 16871 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 16872 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16873 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
 16874 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-

dercyrillic
 16875 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16876 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-
 dercyrillic
 16877 \DeclareTextCommand{\cyrt dsc}{PU}{\84\255}% U+04AD
 16878 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16879 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16880 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16881 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 16882 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-
 traightstrokecyrillic
 16883 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16884 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-
 traightstrokecyrillic
 16885 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 16886 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesce-
 dercyrillic
 16887 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16888 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-
 dercyrillic
 16889 \DeclareTextCommand{\cyrh dsc}{PU}{\84\263}% U+04B3
 16890 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16891 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16892 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16893 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16894 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
 16895 % Chedescendercyrillic
 16896 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16897 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-
 dercyrillic
 16898 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 16899 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
 16900 % Cheverticalstrokecyrillic
 16901 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16902 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
 16903 % cheverticalstrokecyrillic
 16904 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16905 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16906 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16907 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16908 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16909 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
 cyrillic
 16910 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16911 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
 lic
 16912 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16913 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; Chedescenderabkhasiancyrillic
 16914 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16915 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16916 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; chedescenderabkhasiancyrillic
 16917 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF

16918 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16919 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
16920 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16921 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrlilic
16922 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
16923 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrlilic
16924 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
16925 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
16926 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
16927 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
16928 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
16929 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
16930 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
16931 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
16932 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
16933 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
16934 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
16935 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
16936 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
16937 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
siancyrillic
16938 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
16939 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
cyrillic
16940 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
16941 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
16942 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
16943 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
16944 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
16945 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrlilic
16946 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
16947 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrlilic
16948 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
16949 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrlilic
16950 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
16951 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrlilic
16952 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
16953 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrlilic
16954 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16955 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrlilic
16956 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16957 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrlilic
16958 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16959 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrlilic
16960 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16961 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrlilic
16962 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16963 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrlilic
16964 \DeclareTextCommand{\cyrschw}{PU}{\84\331}% U+04D9
16965 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;
16966 % Schwadiesiscyrlilic
16967 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA

16968 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;
 16969 % schwadiesiscyrillic
 16970 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
 16971 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
 sisycrillic
 16972 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
 16973 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic
 16974 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% U+04DD
 16975 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic
 16976 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
 16977 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic
 16978 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
 16979 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic
 16980 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 16981 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic
 16982 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 16983 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 16984 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2
 16985 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 16986 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3
 16987 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
 16988 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
 16989 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
 16990 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
 16991 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic
 16992 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 16993 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 16994 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 16995 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 16996 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 16997 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 16998 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 16999 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;
 17000 % Obarreddieresiscyrillic
 17001 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 17002 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;
 17003 % obarreddieresiscyrillic
 17004 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 17005 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 17006 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 17007 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 17008 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 17009 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 17010 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE
 17011 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 17012 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF
 17013 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic

17014 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 17015 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 17016 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 17017 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-
 garumlautcyrillic
 17018 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 17019 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
 garumlautcyrillic
 17020 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 17021 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
 siscyrillic
 17022 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 17023 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresis-
 cyrillic
 17024 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 17025 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 17026 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 17027 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 17028 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 17029 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
 siscyrillic
 17030 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 17031 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
 siscyrillic
 17032 \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
 17033 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 17034 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 17035 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 17036 \DeclareTextCommand{\cyrhhk}{PU}{\84\375}% U+04FD
 17037 \fi
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

46.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`. `hebrew` is only loaded if `\hebdalet` is defined

17038 \ifx\hebdalet\@undefined\else
 17039 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
 17040 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
 17041 % U+05D0 HEBREW LETTER ALEF
 17042 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
 17043 % U+05D1 HEBREW LETTER BET
 17044 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
 17045 % U+05D2 HEBREW LETTER GIMEL
 17046 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
 17047 % U+05D3 HEBREW LETTER DALET
 17048 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3

17049 % U+05D4 HEBREW LETTER HE
17050 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17051 % U+05D5 HEBREW LETTER VAV
17052 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17053 % U+05D6 HEBREW LETTER ZAYIN
17054 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17055 % U+05D7 HEBREW LETTER HET
17056 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7
17057 % U+05D8 HEBREW LETTER TET
17058 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
17059 % U+05D9 HEBREW LETTER YOD
17060 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
17061 % U+05DA HEBREW LETTER FINAL KAF
17062 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
17063 % U+05DB HEBREW LETTER KAF
17064 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
17065 % U+05DC HEBREW LETTER LAMED
17066 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
17067 % U+05DD HEBREW LETTER FINAL MEM
17068 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
17069 % U+05DE HEBREW LETTER MEM
17070 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
17071 % U+05DF HEBREW LETTER FINAL NUN
17072 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
17073 % U+05E0 HEBREW LETTER NUN
17074 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
17075 % U+05E1 HEBREW LETTER SAMEKH
17076 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
17077 % U+05E2 HEBREW LETTER AYIN
17078 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
17079 % U+05E3 HEBREW LETTER FINAL PE
17080 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
17081 % U+05E4 HEBREW LETTER PE
17082 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
17083 % U+05E5 HEBREW LETTER FINAL TSADI
17084 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
17085 % U+05E6 HEBREW LETTER TSADI
17086 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
17087 % U+05E7 HEBREW LETTER QOF
17088 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
17089 % U+05E8 HEBREW LETTER RESH
17090 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
17091 % U+05E9 HEBREW LETTER SHIN
17092 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
17093 %* \hebshin -> \hebsin (he8)
17094 % U+05EA HEBREW LETTER TAV
17095 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
17096 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
17097 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
17098 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
17099 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
17100 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
17101 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2
17102 \fi

46.2.12 Thai: U+0E00 to U+0E7F

17103 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
17104 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

46.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17105 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textasca (tipa)
17106 \DeclareTextCommand{\textasca}{PU}{\9035\000}% U+1D00
17107 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)
17108 \DeclareTextCommand{\textscd}{PU}{\9035\005}%* U+1D05
17109 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)
17110 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07
17111 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)
17112 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A
17113 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textस्क (tipx)
17114 \DeclareTextCommand{\textPUस्क}{PU}{\9035\013}% U+1D0B
17115 %* \textPUस्क -> \textस्क (tipx)
17116 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)
17117 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D
17118 %* \textPUscm -> \textscm (tipx)
17119 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)
17120 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18
17121 %* \textPUscp -> \textscp (tipx)
17122 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
17123 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
17124 %* \textPUrevscr -> \textrevscr (tipx)
17125 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)
17126 \DeclareTextCommand{\textscu}{PU}{\9035\034}%* U+1D1C
17127 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
17128 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%* U+1D62
17129 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
17130 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%* U+1D63
17131 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
17132 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%* U+1D64
17133 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
17134 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%* U+1D65
17135 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
17136 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
17137 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
17138 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
17139 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
17140 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
17141 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
17142 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
17143 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
17144 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
17145 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
17146 % \barsci (wsuipa)
17147 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
17148 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
17149 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
17150 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
17151 % \barscu (wsuipa)
17152 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

46.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

```
17153 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
      trhooka (tipx)
17154 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F
17155 %* \textPURhooka -> \textrhooka (tipx)
17156 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
      taild (tipa)
17157 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
17158 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
      trhooke (tipx)
17159 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92
17160 %* \textPURhooke -> \textrhooke (tipx)
17161 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
17162 % \textrhookepsilon (tipx)
17163 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93
17164 %* \textPURhookepsilon -> \textrhookepsilon (tipx)
17165 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
17166 % \textrhookopeno (tipx)
17167 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97
17168 %* \textPURhookopeno -> \textrhookopeno (tipx)
```

46.2.15 Latin Extended Additional: U+1E00 to U+1EFF

```
17169 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
17170 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
17171 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
17172 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
17173 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
17174 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
17175 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
17176 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
17177 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
17178 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
17179 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
17180 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
17181 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
17182 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
17183 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
17184 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
17185 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
17186 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
17187 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
17188 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
17189 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
17190 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
17191 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
17192 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
17193 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
17194 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
17195 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
17196 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
17197 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
17198 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
17199 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
```


17200 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
17201 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
cumflexbelow
17202 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
17203 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
cumflexbelow
17204 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
17205 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
17206 % E macrongrave
17207 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
17208 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
17209 % e macrongrave
17210 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
17211 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
17212 % E macronacute
17213 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
17214 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
17215 % e macronacute
17216 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
17217 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
cumflexbelow
17218 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
17219 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
cumflexbelow
17220 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
17221 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
17222 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
17223 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
17224 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
17225 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
17226 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
17227 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
17228 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
17229 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
17230 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
17231 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
17232 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
17233 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
17234 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
17235 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
17236 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
17237 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
17238 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24
17239 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
17240 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25
17241 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
17242 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
17243 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
17244 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
17245 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
17246 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
17247 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
17248 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
17249 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow

17250 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A
17251 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow
17252 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B
17253 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
17254 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C
17255 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow
17256 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D
17257 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
17258 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
17259 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
17260 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
17261 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
17262 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32
17263 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
17264 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33
17265 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
17266 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
17267 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
17268 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
17269 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
17270 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36
17271 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
17272 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37
17273 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
17274 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
17275 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
17276 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
17277 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
17278 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C
17279 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
17280 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D
17281 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
17282 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
17283 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
17284 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
17285 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
17286 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
17287 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
17288 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
17289 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
17290 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
17291 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
17292 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
17293 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
17294 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
17295 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
17296 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
17297 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
17298 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
17299 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
17300 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
17301 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow

17302 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
17303 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
17304 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
17305 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
17306 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A
17307 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-
cumflexbelow
17308 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
17309 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
17310 % Omacrongrave
17311 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
17312 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
17313 % omacrongrave
17314 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
17315 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
17316 % Omacronacute
17317 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
17318 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
17319 % omacronacute
17320 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
17321 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
17322 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
17323 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
17324 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
17325 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
17326 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
17327 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
17328 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
17329 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
17330 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
17331 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
17332 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
17333 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
17334 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
17335 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow
17336 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
17337 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
17338 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
17339 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
17340 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
17341 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
17342 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
17343 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
17344 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
17345 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
17346 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
17347 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
17348 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
17349 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
17350 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
17351 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
17352 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
17353 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow

17354 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
17355 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow
17356 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
17357 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
17358 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
17359 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
17360 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
17361 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-
cumflexbelow
17362 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
17363 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-
cumflexbelow
17364 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
17365 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
sisbelow
17366 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
17367 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-
sisbelow
17368 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
17369 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
17370 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
17371 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
17372 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
17373 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-
cumflexbelow
17374 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
17375 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-
cumflexbelow
17376 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
17377 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
17378 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
17379 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
17380 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
17381 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
17382 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
17383 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow
17384 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
17385 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
17386 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
17387 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
17388 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
17389 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
17390 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
17391 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
17392 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
17393 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
17394 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
17395 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
17396 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
17397 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
17398 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
17399 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
17400 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
17401 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow

17402 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
17403 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
17404 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
17405 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
17406 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
17407 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
17408 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
17409 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
17410 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
17411 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
17412 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
17413 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
17414 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
17415 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
17416 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
17417 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
17418 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
17419 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
17420 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
17421 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
17422 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
17423 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
17424 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
17425 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
17426 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
17427 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
17428 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
17429 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
17430 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
17431 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
17432 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
17433 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
17434 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
17435 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
17436 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
17437 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-
taccent
17438 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
17439 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow
17440 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
17441 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow
17442 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
17443 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow
17444 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
17445 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow
17446 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
17447 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
17448 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
17449 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
17450 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
17451 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow
17452 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
17453 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow
17454 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB

17455 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
 17456 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
 17457 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow
 17458 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 17459 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow
 17460 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
 17461 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow
 17462 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 17463 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 17464 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 17465 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 17466 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 17467 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow
 17468 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
 17469 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow
 17470 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
 17471 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 17472 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 17473 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 17474 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

46.2.16 General Punctuation: U+2000 to U+206F

17475 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 17476 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 17477 % U+2013 EN DASH; endash
 17478 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 17479 % U+2014 EM DASH; emdash
 17480 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 17481 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 17482 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 17483 %* \textbardbl -> \textdoublevertline (tipa)
 17484 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 17485 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 17486 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 17487 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 17488 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 17489 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 17490 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 17491 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 17492 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 17493 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 17494 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 17495 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 17496 % U+2020 DAGGER; dagger
 17497 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
 17498 %* \textdagger -> \dag (LaTeX)
 17499 % U+2021 DOUBLE DAGGER; daggerdbl; ddagger (LaTeX)
 17500 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 17501 %* \textdaggerdbl -> \ddagger (LaTeX)
 17502 %* \textdaggerdbl -> \ddag (LaTeX)
 17503 % U+2022 BULLET; bullet
 17504 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
 17505 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
 17506 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025

17507 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 17508 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 17509 %* \textellipsis -> \mathellipsis
 17510 % U+2030 PER MILLE SIGN; perthousand
 17511 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 17512 % U+2031 PER TEN THOUSAND SIGN
 17513 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 17514 % U+2032 PRIME; minute; \prime (MnSymbol)
 17515 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
 17516 % U+2033 DOUBLE PRIME; \second (mathabx)
 17517 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
 17518 % U+2034 TRIPLE PRIME; \third (mathabx)
 17519 \DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034
 17520 % U+2035 REVERSED PRIME; \backprime (AmS)
 17521 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
 17522 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 inglleft
 17523 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 17524 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 inglright
 17525 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 17526 % U+203B REFERENCE MARK; referencemark
 17527 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 17528 % U+203D INTERROBANG
 17529 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 17530 % U+2044 FRACTION SLASH; fraction
 17531 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 17532 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 17533 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 17534 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 17535 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 17536 % U+2052 COMMERCIAL MINUS SIGN
 17537 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
 17538 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
 17539 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
 17540 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)
 17541 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 17542 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 17543 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

46.2.17 Superscripts and Subscripts: U+2070 to U+209F

17544 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 17545 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 17546 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 17547 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 17548 % U+2074 SUPERSCRIPT FOUR; foursuperior
 17549 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 17550 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 17551 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 17552 % U+2076 SUPERSCRIPT SIX; sixsuperior
 17553 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 17554 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 17555 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 17556 % U+2078 SUPERSCRIPT EIGHT; eightsuperior

17557 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
17558 % U+2079 SUPERSCRIPT NINE; ninesuperior
17559 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
17560 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
17561 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
17562 % U+207B SUPERSCRIPT MINUS
17563 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
17564 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
17565 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}%* U+207C
17566 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
17567 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
17568 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
17569 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
17570 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
17571 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%* U+207F
17572 % U+2080 SUBSCRIPT ZERO; zeroinferior
17573 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
17574 % U+2081 SUBSCRIPT ONE; oneinferior
17575 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
17576 % U+2082 SUBSCRIPT TWO; twoinferior
17577 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
17578 % U+2083 SUBSCRIPT THREE; threeinferior
17579 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%* U+2083
17580 % U+2084 SUBSCRIPT FOUR; fourinferior
17581 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
17582 % U+2085 SUBSCRIPT FIVE; fiveinferior
17583 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
17584 % U+2086 SUBSCRIPT SIX; sixinferior
17585 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
17586 % U+2087 SUBSCRIPT SEVEN; seveninferior
17587 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
17588 % U+2088 SUBSCRIPT EIGHT; eightinferior
17589 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
17590 % U+2089 SUBSCRIPT NINE; nineinferior
17591 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
17592 % U+208A SUBSCRIPT PLUS SIGN
17593 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
17594 % U+208B SUBSCRIPT MINUS
17595 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
17596 % U+208C SUBSCRIPT EQUALS SIGN
17597 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
17598 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
17599 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
17600 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
17601 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
17602 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
17603 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
17604 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
17605 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
17606 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
17607 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
17608 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
17609 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
17610 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA

17611 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
 17612 % U+2095 LATIN SUBSCRIPT SMALL LETTER H
 17613 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%* U+2095
 17614 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
 17615 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
 17616 % U+2097 LATIN SUBSCRIPT SMALL LETTER L
 17617 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
 17618 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
 17619 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
 17620 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
 17621 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
 17622 % U+209A LATIN SUBSCRIPT SMALL LETTER P
 17623 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
 17624 % U+209B LATIN SUBSCRIPT SMALL LETTER S
 17625 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
 17626 % U+209C LATIN SUBSCRIPT SMALL LETTER T
 17627 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

46.2.18 Currency Symbols: U+20A0 to U+20CF

17628 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 17629 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 17630 % U+20A4 LIRA SIGN; afi08941, *lira
 17631 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 17632 % U+20A6 NAIRA SIGN
 17633 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 17634 % U+20A7 PESETA SIGN; peseta
 17635 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 17636 % U+20A9 WON SIGN; won
 17637 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 17638 % U+20AB DONG SIGN; dong
 17639 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 17640 % U+20AC EURO SIGN; *Euro, euro
 17641 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 17642 %* \texteuro -> \EurDig (marvosym)
 17643 %* \texteuro -> \EURdig (marvosym)
 17644 %* \texteuro -> \EurHv (marvosym)
 17645 %* \texteuro -> \EURhv (marvosym)
 17646 %* \texteuro -> \EurCr (marvosym)
 17647 %* \texteuro -> \EURcr (marvosym)
 17648 %* \texteuro -> \EurTm (marvosym)
 17649 %* \texteuro -> \EURtm (marvosym)
 17650 %* \texteuro -> \Eur (marvosym)
 17651 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
 17652 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
 17653 %* \textDeleatur -> \Denarius (marvosym)
 17654 % U+20B1 PESO SIGN
 17655 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 17656 % U+20B2 GUARANI SIGN
 17657 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

46.2.19 Letterlike Symbols: U+2100 to U+214F

17658 % U+2103 DEGREE CELSIUS; centigrade
 17659 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 17660 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)

17661 \DeclareTextCommand{\textslash}{PU}{\9041\017}%* U+210F
17662 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
17663 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
17664 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
17665 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
17666 % U+2116 NUMERO SIGN; *afii61352, numero
17667 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
17668 % U+2117 SOUND RECORDING COPYRIGHT
17669 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
17670 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
17671 % weierstrass; \wp (LaTeX)
17672 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
17673 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
17674 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
17675 % U+211E PRESCRIPTION TAKE; prescription
17676 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
17677 % U+2120 SERVICE MARK
17678 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
17679 % U+2122 TRADE MARK SIGN; trademark
17680 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
17681 % U+2126 OHM SIGN; Ohm, Omega
17682 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
17683 % U+2127 INVERTED OHM SIGN
17684 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
17685 %* \textmho -> \agemO (wasysym)
17686 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
17687 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
17688 % U+212B ANGSTROM SIGN; angstrom
17689 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
17690 % U+212E ESTIMATED SYMBOL; estimated
17691 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
17692 %* \textestimated -> \EstimatedSign (marvosym)
17693 %* \textestimated -> \Ecommerce (marvosym)
17694 % U+2132 TURNED CAPITAL F; \Finv (AmS)
17695 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
17696 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
17697 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
17698 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
17699 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
17700 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
17701 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
17702 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
17703 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
17704 % U+213B FACSIMILE SIGN; \fax (marvosym)
17705 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
17706 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
17707 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
17708 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
17709 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
17710 %* \textinvamp -> \bindnasrepma (stmaryrd)
17711 %* \textinvamp -> \parr (cml)

46.2.20 Number Forms: U+2150 to U+218F

17712 % U+2150 VULGAR FRACTION ONE SEVENTH
17713 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
17714 % U+2151 VULGAR FRACTION ONE NINTH
17715 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
17716 % U+2152 VULGAR FRACTION ONE TENTH
17717 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
17718 % U+2153 VULGAR FRACTION ONE THIRD; onethird
17719 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
17720 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
17721 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
17722 % U+2155 VULGAR FRACTION ONE FIFTH
17723 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
17724 % U+2156 VULGAR FRACTION TWO FIFTHS
17725 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
17726 % U+2157 VULGAR FRACTION THREE FIFTHS
17727 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
17728 % U+2158 VULGAR FRACTION FOUR FIFTHS
17729 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
17730 % U+2159 VULGAR FRACTION ONE SIXTH
17731 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
17732 % U+215A VULGAR FRACTION FIVE SIXTHS
17733 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
17734 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
17735 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
17736 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
17737 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
17738 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
17739 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
17740 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
17741 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
17742 % U+2184 LATIN SMALL LETTER REVERSED C
17743 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
17744 % U+2189 VULGAR FRACTION ZERO THIRDS
17745 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

46.2.21 Arrows: U+2190 to U+21FF

17746 % U+2190 LEFTWARDS ARROW; arrowleft
17747 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
17748 % U+2191 UPWARDS ARROW; arrowup
17749 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
17750 % U+2192 RIGHTWARDS ARROW; arrowright
17751 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
17752 %* \textrightarrow -> \MVRightArrow (marvosym)
17753 %* \textrightarrow -> \MVRightarrow (marvosym)
17754 % U+2193 DOWNWARDS ARROW; arrowdown
17755 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
17756 %* \textdownarrow -> \MVAArrowDown (marvosym)
17757 %* \textdownarrow -> \Force (marvosym)
17758 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)
17759 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%* U+2194
17760 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
17761 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
17762 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
17763 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196

```

17764 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17765 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
17766 %* \textnearrow -> \textglobrise (tipa)
17767 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17768 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17769 %* \textsearrow -> \textglobfall (tipa)
17770 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17771 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17772 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17773 \DeclareTextCommand{\textleftarrow}{PU}{\9041\232}%* U+219A
17774 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17775 \DeclareTextCommand{\textrightarrow}{PU}{\9041\233}%* U+219B
17776 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17777 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17778 % \ntwoheadleftarrow (txfonts/pxfonts)
17779 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17780 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17781 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17782 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17783 % \twoheadrightarrow (AmS)
17784 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17785 % \ntwoheadrightarrow (txfonts/pxfonts)
17786 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17787 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17788 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17789 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17790 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17791 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17792 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17793 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17794 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17795 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17796 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17797 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17798 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
17799 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17800 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17801 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17802 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17803 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
17804 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\256}%* U+21AE
17805 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17806 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17807 %* \textlightning -> \Lightning (marvosym)
17808 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17809 % \dls (mathabx)
17810 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17811 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17812 % \curvearrowleft (AmS)
17813 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17814 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17815 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17816 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-

```

```

        barbup;
17817 % \leftharpoonup (LaTeX)
17818 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17819 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17820 % \leftharpoondown (LaTeX)
17821 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17822 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17823 % \upharpoonright (AmS)
17824 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17825 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17826 % \upharpoonleft (AmS)
17827 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17828 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
        barbup
17829 % \rightharpoonup (LaTeX)
17830 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17831 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17832 % \rightharpoondown (LaTeX)
17833 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17834 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17835 % \downharpoonright (AmS)
17836 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17837 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17838 % \downharpoonleft (AmS)
17839 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17840 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17841 % \rightarrowoverleftarrow{\rightarrow} (MnSymbol)
17842 \DeclareTextCommand{\textrightarrowoverleftarrow}{PU}{\9041\304}%* U+21C4
17843 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; \ar-
        rowupleftofdown;
17844 % \updownarrows (MnSymbol)
17845 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17846 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; \arrowleft-
        overrightarrow;
17847 % \leftrightarrows (AmS)
17848 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17849 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17850 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17851 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17852 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17853 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17854 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17855 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17856 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17857 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17858 % \leftrightharpoons (AmS);
17859 \DeclareTextCommand{\textrightharpoons}{PU}{\9041\313}%* U+21CB
17860 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17861 % \rightleftharpoons (LaTeX, AmS)
17862 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17863 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; \arrowleftd-
        blstroke;
17864 % \nLeftarrow (AmS)
17865 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD

```

```

17866 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
17867 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17868 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;
17869 % \nRrightarrow (AmS)
17870 \DeclareTextCommand{\textnRrightarrow}{PU}{\9041\317}%* U+21CF
17871 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17872 % \Leftarrow (LaTeX)
17873 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17874 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17875 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17876 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17877 % \Rrightarrow (LaTeX)
17878 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\322}%* U+21D2
17879 %* \textRrightarrow -> \Conclusion (marvosym)
17880 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (LaTeX)
17881 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17882 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17883 % \Leftrightarrow (LaTeX)
17884 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17885 %* \textLeftrightarrow -> \Equivalence (marvosym)
17886 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17887 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17888 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17889 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17890 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17891 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17892 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17893 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17894 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
17895 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
17896 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17897 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17898 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
17899 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17900 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17901 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17902 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17903 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17904 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17905 % \dashleftarrow (AmS)
17906 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17907 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17908 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (MnSymbol)
17909 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17910 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow (AmS)
17911 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17912 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17913 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow (MnSymbol)

```

```

17914 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17915 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
17916 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17917 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17918 % \downuparrows (MnSymbol)
17919 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
17920 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17921 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17922 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17923 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17924 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
      (stmaryrd)
17925 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

```

46.2.22 Mathematical Operators: U+2200 to U+22FF

```

17926 % U+2200 FOR ALL; forall; \forall (LaTeX)
17927 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17928 % U+2201 COMPLEMENT; \complement (AmS)
17929 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17930 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17931 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17932 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17933 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17934 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17935 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17936 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17937 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17938 %* \textemptyset -> \varnothing (AmS)
17939 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17940 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17941 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17942 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17943 % U+2208 ELEMENT OF; element; \in (LaTeX)
17944 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17945 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17946 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
17947 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17948 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17949 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17950 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17951 %* \textni -> \owns (mathabx)
17952 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17953 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17954 %* \textnotowner -> \notni (txfonts/pxfonts)
17955 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17956 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17957 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17958 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17959 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17960 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17961 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17962 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17963 % U+2212 MINUS SIGN; minus
17964 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212

```

17965 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17966 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17967 % U+2214 DOT PLUS; \dotplus (AmS)
17968 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17969 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17970 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
17971 % \DividesNot (marvosym)
17972 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
17973 % U+2216 SET MINUS; \setminus (LaTeX)
17974 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17975 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17976 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17977 % U+2218 RING OPERATOR; \circ (LaTeX)
17978 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17979 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17980 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
17981 % U+221A SQUARE ROOT; radical
17982 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
17983 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17984 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17985 %* \textpropto -> \varprop (wasysym)
17986 % U+221E INFINITY; infinity; \infty (LaTeX)
17987 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17988 % U+2220 ANGLE; angle; \angle (LaTeX)
17989 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17990 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17991 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17992 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17993 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17994 %* \textsphericalangle -> \varangle (wasysym)
17995 %* \textsphericalangle -> \Anglesign (marvosym)
17996 %* \textsphericalangle -> \AngleSign (marvosym)
17997 % U+2223 DIVIDES; divides; \mid (LaTeX)
17998 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17999 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18000 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18001 %* \textnmid -> \notdivides (mathabx)
18002 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18003 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18004 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18005 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18006 %* \textnparallel -> nUpdownline (MnSymbol)
18007 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18008 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18009 % \owedge (stmaryrd)
18010 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18011 %* \textowedge -> \varowedge (stmaryrd)
18012 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18013 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18014 % \ovee (stmaryrd)
18015 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18016 %* \textovee -> \varovee (stmaryrd)
18017 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18018 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229


```

18019 % U+222A UNION; union; \cup (LaTeX)
18020 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18021 % U+222B INTEGRAL; integral; \int (LaTeX)
18022 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18023 %* \textint -> \varint (wasysym)
18024 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18025 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18026 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18027 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18028 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18029 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18030 %* \textoint -> \varoint (wasysym)
18031 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18032 \DeclareTextCommand{\textoint}{PU}{\9042\057}%* U+222F
18033 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18034 % \ointclockwise (txfonts/pxfonts)
18035 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18036 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
18037 % \textointctrclockwise}{PU}{\9042\063}%* U+2233
18038 % U+2234 THEREFORE; therefore; \therefore (AmS)
18039 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18040 %* \texttherefore -> uptherefore (MnSymbol)
18041 % U+2235 BECAUSE; because; \because (AmS)
18042 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18043 %* \textbecause -> \downtherefore (MnSymbol)
18044 % U+2236 RATIO; \vdots (MnSymbol)
18045 \DeclareTextCommand{\textvdots}{PU}{\9042\066}%* U+2236
18046 % U+2237 PROPORTION; \squaredots (MnSymbol)
18047 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18048 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18049 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18050 %* \textdotminus -> \textdotdiv (mathabx)
18051 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18052 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18053 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18054 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18055 %* \textsim -> \AC (wasysym)
18056 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18057 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18058 % \nbacksim (txfonts/pxfonts)
18059 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18060 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18061 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18062 %* \textwr -> \wreath (MnSymbol)
18063 % U+2241 NOT TILDE; \nsim (AmS)
18064 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18065 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18066 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18067 % \neqsim (MnSymbol)
18068 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18069 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
18070 % \textsim}{PU}{\9042\103}%* U+2243

```

18071 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18072 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18073 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18074 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18075 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18076 % \ncong (AmS)
18077 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18078 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18079 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18080 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18081 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18082 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18083 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18084 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18085 % \napproxeq (txfonts/pxfonts)
18086 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18087 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18088 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18089 %* \texttriplesim -> \VHF (wasysym)
18090 % \ntriplesim (MnSymbol)
18091 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18092 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18093 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18094 % \nbackcong (MnSymbol)
18095 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18096 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18097 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18098 % \nasymp (txfonts/pxfonts)
18099 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
18100 %* \textnasymp -> \notasympt (mathabx)
18101 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18102 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18103 % \nBumpeq (txfonts/pxfonts)
18104 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18105 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18106 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18107 % \nbumpeq (txfonts/pxfonts)
18108 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18109 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18110 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18111 % \ndoteq (MnSymbol)
18112 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18113 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18114 % \doteqdot (AmS)
18115 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18116 %* \textdoteqdot -> \Doteq (MnSymbol)
18117 % \nDoteq (MnSymbol)
18118 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18119 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18120 % \fallingdotseq (AmS)
18121 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18122 % \nfallingdotseq (MnSymbol)
18123 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338

18124 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproximatelyequal;
 18125 % \risingdotseq (AmS)
 18126 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
 18127 % \nrisingdotseq (MnSymbol)
 18128 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338
 18129 % U+2254 COLON EQUALS; \colonequals (colonequals)
 18130 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
 18131 % U+2255 EQUALS COLON; \equalscolon (colonequals)
 18132 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
 18133 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
 18134 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
 18135 % \neqcirc (MnSymbol)
 18136 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
 18137 % U+2257 RING EQUAL TO; \circeq (AmS)
 18138 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
 18139 % \ncirceq (MnSymbol)
 18140 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
 18141 % U+2259 ESTIMATES; \hateq (MnSymbol)
 18142 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
 18143 %* \texthateq -> \corresponds (mathabx)
 18144 %* \texthateq -> \Corresponds (marvosym)
 18145 % \nhateq (MnSymbol)
 18146 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
 18147 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
 18148 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
 18149 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
 18150 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
 18151 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
 18152 %* \textneq -> \nequal (MnSymbol)
 18153 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
 18154 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
 18155 %* \textequiv -> \Congruent (marvosym)
 18156 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
 18157 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
 18158 %* \textnequiv -> \NotCongruent (marvosym)
 18159 %* \textnequiv -> \notequiv (mathabx)
 18160 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
 18161 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
 18162 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
 18163 %* \textleq -> \LessOrEqual (marvosym)
 18164 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
 18165 % \ge (LaTeX), \geq (LaTeX)
 18166 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
 18167 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
 18168 %* \textgeq -> \LargerOrEqual (marvosym)
 18169 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
 18170 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
 18171 % \nleqq (txfonts/pxfonts)
 18172 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
 18173 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
 18174 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
 18175 % \ngeqq (txfonts/pxfonts)
 18176 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338

```

18177 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18178 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18179 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18180 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18181 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18182 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18183 % \nll (txfonts/pxfonts)
18184 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18185 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18186 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18187 % \ngg (txfonts/pxfonts)
18188 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18189 % U+226C BETWEEN; \between (AmS)
18190 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18191 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18192 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18193 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18194 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18195 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18196 % \nleq (AmS)
18197 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18198 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18199 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18200 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18201 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18202 % \textlessim -> \apprle (wasysym)
18203 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18204 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18205 % \textgtrsim -> \apprge (wasysym)
18206 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18207 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18208 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18209 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18210 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18211 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18212 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18213 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18214 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (txfonts/pxfonts)
18215 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18216 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (txfonts/pxfonts)
18217 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18218 % U+227A PRECEDES; precedes; \prec (LaTeX)
18219 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18220 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18221 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18222 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18223 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18224 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)

```

18225 \DeclareTextCommand{\textsuccurlyeq}{PU}{\9042\175}%* U+227D
18226 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18227 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18228 % \nprecsim (txfonts/pxfonts)
18229 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18230 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18231 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18232 % \nsuccsim (txfonts/pxfonts)
18233 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18234 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18235 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18236 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)
18237 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18238 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18239 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18240 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18241 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18242 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18243 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18244 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18245 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18246 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18247 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18248 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18249 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18250 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18251 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18252 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18253 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18254 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
neq (AmS)
18255 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18256 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
neq (AmS)
18257 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18258 % U+228D MULTISET MULTIPLICATION; \cupdot (MnSymbol)
18259 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18260 % U+228E MULTISET UNION; \cupplus (MnSymbol)
18261 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18262 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18263 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18264 % \nsqsubset (txfonts/pxfonts)
18265 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18266 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18267 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18268 % \nsqsupset (txfonts/pxfonts)
18269 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18270 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18271 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18272 % \nsqsubseteq (txfonts/pxfonts)
18273 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18274 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18275 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18276 % \nsqsupseteq (txfonts/pxfonts)

```

18277 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18278 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18279 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18280 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18281 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18282 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18283 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18284 %* \textoplus -> \varoplus (stmaryrd)
18285 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18286 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18287 %* \textominus -> \varominus (stmaryrd)
18288 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18289 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18290 %* \textotimes -> \varotimes (stmaryrd)
18291 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18292 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18293 %* \textoslash -> \varoslash (stmaryrd)
18294 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18295 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18296 %* \textodot -> \varodot (stmaryrd)
18297 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18298 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18299 %* \textcircledcirc -> \ocirc (mathabx)
18300 %* \textcircledcirc -> \varocircle (stmaryrd)
18301 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18302 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18303 %* \textcircledast -> \varoast (stmaryrd)
18304 %* \textcircledast -> \oasterisk (mathabx)
18305 % U+229D CIRCLED DASH; \circleddash (AmS)
18306 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18307 % U+229E SQUARED PLUS; \boxplus (AmS)
18308 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18309 % U+229F SQUARED MINUS; \boxminus (AmS)
18310 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18311 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18312 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18313 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18314 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18315 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18316 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18317 %* \textvdash -> \rightvdash (MnSymbol)
18318 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18319 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18320 %* \textdashv -> \leftvdash (MnSymbol)
18321 % \ndashv (mathabx)
18322 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18323 %* \textndashv -> \nleftvdash (MnSymbol)
18324 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18325 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18326 %* \texttop -> \downvdash (MnSymbol)
18327 % \downvdash (MnSymbol)
18328 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18329 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18330 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5

```

```

18331 %* \textbot -> \upvdash (MnSymbol)
18332 % \nupvdash (MnSymbol)
18333 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18334 %* \textnupvdash -> \nperp (MnSymbol)
18335 % U+22A8 TRUE; \vDash (AmS)
18336 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18337 %* \textvDash -> \models (LaTeX)
18338 %* \textvDash -> \rightmodels (MnSymbol)
18339 % U+22A9 FORCES; \Vdash (AmS)
18340 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18341 %* \textVdash -> \rightVdash (MnSymbol)
18342 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18343 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18344 % \nVdash (mathabx)
18345 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18346 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18347 % \VDash (mathabx)
18348 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18349 %* \textVDash -> \rightModels (MnSymbol)
18350 % U+22AC DOES NOT PROVE; \nvDash (AmS)
18351 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
18352 %* \textnvDash -> \nrighnvDash (MnSymbol)
18353 % U+22AD NOT TRUE; \nVDash (AmS)
18354 \DeclareTextCommand{\textnVDash}{PU}{\9042\255}%* U+22AD
18355 %* \textnVDash -> \nrighmodels (MnSymbol)
18356 %* \textnVDash -> \nmodels (MnSymbol)
18357 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18358 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18359 %* \textnVdash -> \nrighVdash (MnSymbol)
18360 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18361 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18362 %* \textnVDash -> \nrighModels (MnSymbol)
18363 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18364 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18365 %* \textlhd -> \lessclosed (MnSymbol)
18366 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18367 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18368 %* \textrhd -> \gtrclosed (MnSymbol)
18369 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18370 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18371 %* \textunlhd -> \leqclosed (MnSymbol)
18372 %* \textunlhd -> \trianglelefteq (MnSymbol)
18373 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18374 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18375 %* \textunrhd -> \geqclosed (MnSymbol)
18376 %* \textunrhd -> \trianglerighteq (MnSymbol)
18377 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18378 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18379 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18380 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18381 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18382 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8

```

```

18383 % U+22BB XOR; \veebar (AmS)
18384 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18385 % U+22BC NAND; \barwedge (mathabx)
18386 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18387 % U+22C6 STAR OPERATOR; \star (LaTeX)
18388 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18389 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18390 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18391 % U+22C8 BOWTIE; \bowtie (LaTeX)
18392 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18393 %* \textbowtie -> \Bowtie (wasysym)
18394 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18395 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18396 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18397 % \rtimes (AmS)
18398 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18399 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18400 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18401 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18402 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18403 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18404 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18405 % \nbacksimeq (txfonts/pxfonts)
18406 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18407 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18408 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18409 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18410 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18411 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18412 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18413 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18414 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18415 % \nSubset (txfonts/pxfonts)
18416 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18417 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18418 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18419 % \nSupset (txfonts/pxfonts)
18420 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18421 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18422 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18423 %* \textCap -> \doublecap (mathabx)
18424 % U+22D3 DOUBLE UNION; \Cup (AmS)
18425 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18426 %* \textCup -> \doublecup (mathabx)
18427 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18428 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18429 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18430 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18431 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18432 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18433 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18434 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18435 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18436 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9

```



```

18437 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18438 % \lesseqgtr (AmS)
18439 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18440 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
18441 % \gtreqless (AmS)
18442 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18443 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18444 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18445 % \ncurlyeqprec (mathabx)
18446 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18447 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18448 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18449 % \ncurlyeqsucc (mathabx)
18450 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18451 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18452 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18453 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18454 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18455 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18456 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18457 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18458 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18459 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18460 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18461 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18462 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18463 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18464 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18465 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18466 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18467 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18468 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18469 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \preccsim (AmS)
18470 \DeclareTextCommand{\textpreccsim}{PU}{\9042\350}%* U+22E8
18471 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)
18472 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%* U+22E9
18473 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18474 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18475 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18476 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
    leright (AmS)
18477 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18478 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18479 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18480 % \ntrianglelefteq (AmS)
18481 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18482 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18483 % \ntrianglerighteq (AmS)
18484 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18485 %* \textntrianglerighteq -> \textngeqclosed
18486 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)

```

```

18487 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18488 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18489 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18490 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18491 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18492 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18493 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18494 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18495 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

```

46.2.23 Miscellaneous Technical: U+2300 to U+23FF

```

18496 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
18497 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18498 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
18499 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18500 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
18501 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
18502 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18503 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18504 % U+231A WATCH; \clock (wasysym)
18505 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18506 %* \textclock -> \Clocklogo (marvosym)
18507 %* \textclock -> \ClockLogo (marvosym)
18508 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18509 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18510 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18511 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18512 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18513 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18514 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18515 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18516 % U+2322 FROWN; \frown (LaTeX)
18517 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18518 % U+2323 SMILE; \smile (LaTeX)
18519 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18520 % U+2328 KEYBOARD; \Keyboard (marvosym)
18521 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18522 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
18523 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18524 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18525 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18526 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18527 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18528 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (mar-
      vosym)
18529 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18530 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18531 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
18532 %* \textstmaryrdbaro -> \baro (stmaryrd)
18533 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18534 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18535 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18536 % \notbackslash (wasysym)
18537 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340

```

18538 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)

18539 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342

18540 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;

18541 % \APLleftarrowbox (wasysym)

18542 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347

18543 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;

18544 % \APLrightarrowbox (wasysym)

18545 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348

18546 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)

18547 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350

18548 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;

18549 % \APLdownarrowbox (wasysym)

18550 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357

18551 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;

18552 % \APLinput (wasysym)

18553 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E

18554 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)

18555 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370

18556 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)

18557 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393

18558 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)

18559 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394

18560 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)

18561 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395

18562 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;

18563 % \ForwardToIndex (marvosym)

18564 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED

18565 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;

18566 % \RewindToIndex (marvosym)

18567 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

46.2.24 Control Pictures: U+2400 to U+243F

18568 % U+2422 BLANK SYMBOL

18569 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422

18570 % U+2423 OPEN BOX; blank

18571 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

46.2.25 Optical Character Recognition: U+2440 to U+245F

18572 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)

18573 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A

18574 %* \textbbslash -> \varparallelinv (txfonts/pxfonts)

46.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18575 % U+2460 CIRCLED DIGIT ONE; onecircle

18576 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460

18577 % U+2461 CIRCLED DIGIT TWO; twocircle

18578 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461

18579 % U+2462 CIRCLED DIGIT THREE; threecircle

18580 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462

18581 % U+2463 CIRCLED DIGIT FOUR; fourcircle

18582 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
18583 % U+2464 CIRCLED DIGIT FIVE; fivecircle
18584 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
18585 % U+2465 CIRCLED DIGIT SIX; sixcircle
18586 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
18587 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
18588 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
18589 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
18590 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
18591 % U+2468 CIRCLED DIGIT NINE; ninecircle
18592 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
18593 % U+2469 CIRCLED NUMBER TEN; tencircle
18594 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
18595 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
18596 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
18597 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
18598 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
18599 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
18600 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
18601 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
18602 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
18603 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
18604 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
18605 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
18606 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
18607 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
18608 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
18609 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
18610 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
18611 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
18612 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
18613 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
18614 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
18615 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
18616 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
18617 % \CircledA (marvosym)
18618 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
18619 %* \textCircledA -> \CleaningA
18620 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
18621 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
18622 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
18623 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
18624 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
18625 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
18626 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
18627 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
18628 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
18629 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
18630 % \CleaningF (marvosym)
18631 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
18632 % \CleaningFF (marvosym)
18633 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
18634 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
18635 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC

18636 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
 18637 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
 18638 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
 18639 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
 18640 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
 18641 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
 18642 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 18643 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 18644 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 18645 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 18646 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 18647 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 18648 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 18649 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 18650 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 18651 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 18652 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 18653 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 18654 % \CleaningP (marvosym)
 18655 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
 18656 % \CleaningPP (marvosym)
 18657 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
 18658 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 18659 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 18660 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 18661 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 18662 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 18663 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 18664 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 18665 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 18666 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 18667 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 18668 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 18669 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 18670 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 18671 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 18672 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 18673 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 18674 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 18675 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 18676 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 18677 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 18678 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 18679 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 18680 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 18681 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 18682 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 18683 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 18684 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 18685 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 18686 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 18687 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 18688 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 18689 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5

18690 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 18691 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 18692 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 18693 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 18694 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 18695 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 18696 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 18697 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 18698 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 18699 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 18700 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 18701 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 18702 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 18703 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 18704 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 18705 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 18706 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 18707 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 18708 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 18709 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 18710 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 18711 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 18712 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 18713 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 18714 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 18715 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 18716 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 18717 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 18718 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 18719 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 18720 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 18721 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 18722 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 18723 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 18724 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 18725 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 18726 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 18727 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 18728 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 18729 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 18730 % U+24EA CIRCLED DIGIT ZERO
 18731 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

46.2.27 Box Drawing: U+2500 to 257F

18732 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
 Line (marvosym)
 18733 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
 18734 %* \textCuttingLine -> \Kutline (marvosym)
 18735 %* \textCuttingLine -> \CutLine (marvosym)
 18736 %* \textCuttingLine -> \Cutline (marvosym)

46.2.28 Geometric Shapes: U+25A0 to U+25FF

18737 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
 18738 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2

```

18739 %* \textUParrow -> \MoveUp (marvosym)
18740 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
18741 % \bigtriangleup (LaTeX)
18742 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
18743 %* \textbigtriangleup -> \APLup (wasysym)
18744 %* \textbigtriangleup -> \Bleech (marvosym)
18745 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
18746 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
18747 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
tion);
18748 % whiterightpointingtriangle; \triangleright (LaTeX)
18749 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
18750 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
18751 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
18752 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
18753 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
18754 %* \textDOWNarrow -> \MoveDown (marvosym)
18755 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtrian-
gle;
18756 % \bigtriangledown (LaTeX)
18757 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
18758 %* \textbigtriangledown -> \APLdown (wasysym)
18759 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
18760 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
18761 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
18762 % whiteleftpointingtriangle; \triangleleft (LaTeX)
18763 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
18764 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
18765 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
18766 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
18767 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
18768 %* \textdiamond -> \Diamond (wasysym)
18769 % U+25CA LOZENGE; lozenge; \lozenge (AMS)
18770 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
18771 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
18772 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18773 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18774 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18775 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18776 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18777 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18778 % \boxbar (stmaryrd)
18779 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18780 % U+25EF LARGE CIRCLE; largecircle
18781 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18782 %* \textbigcircle -> \varbigcirc (stmaryrd)
18783 %

```

46.2.29 Miscellaneous Symbols: U+2600 to U+26FF

```

18784 % U+2601 CLOUD; \Cloud (ifsym)
18785 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18786 % U+2605 BLACK STAR; \FiveStar (bbding)
18787 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605

```

18788 % U+2606 WHITE STAR; \FiveStarOpen (bding)
18789 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18790 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bding)
18791 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18792 %* \textPhone -> \Telefon (marvosym)
18793 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18794 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18795 %* \textboxempty -> \Box (wasysym)
18796 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18797 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18798 %* \textCheckedbox -> \CheckedBox (marvosym)
18799 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18800 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18801 %* \textCrossedbox -> \XBox (wasysym)
18802 %* \textCrossedbox -> \CrossedBox (marvosym)
18803 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18804 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18805 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)
18806 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18807 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)
18808 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18809 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)
18810 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18811 %* \textHandLeft -> \rightpointleft (fourier)
18812 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bding)
18813 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18814 %* \textHandRight -> \leftpointright (fourier)
18815 %* \textHandRight -> \PointingHand (marvosym)
18816 %* \textHandRight -> \Pointinghand (marvosym)
18817 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18818 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18819 %* \textRadioactivity -> \Radiation (ifsym)
18820 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18821 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18822 % U+2625 ANKH; \Ankh (marvosym)
18823 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625
18824 % U+262F YIN YANG; \YinYang (marvosym)
18825 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
18826 %* \textYinYang -> \Yinyang (marvosym)
18827 %* \textYinYang -> \YingYang (marvosym)
18828 %* \textYinYang -> \Yingyang (marvosym)
18829 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
18830 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
18831 %* \textfrownie -> \Frowny (marvosym)
18832 % U+263A WHITE SMILING FACE; \smiley (wasysym)
18833 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18834 %* \textsmiley -> \Smiley (marvosym)
18835 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18836 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18837 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18838 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18839 %* \textsun -> \Sun (marvosym)
18840 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18841 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D


```

18842 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18843 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18844 % U+263F MERCURY; \mercury (wasysym)
18845 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18846 %* \textmercury -> \Mercury (marvosym)
18847 % U+2640 FEMALE SIGN; female; \female (wasysym)
18848 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18849 %* \textPUfemale -> \textfemale (tipx)
18850 %* \textPUfemale -> \female (wasysym)
18851 %* \textPUfemale -> \venus (wasysym)
18852 %* \textPUfemale -> \Venus (marvosym)
18853 %* \textPUfemale -> \Female (marvosym)
18854 % U+2641 EARTH; \earth (wasysym)
18855 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18856 %* \textearth -> \Earth (marvosym)
18857 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18858 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18859 %* \textmale -> \mars (wasysym)
18860 %* \textmale -> \Mars (marvosym)
18861 %* \textmale -> \Male (marvosym)
18862 % U+2643 JUPITER; \jupiter (wasysym)
18863 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18864 %* \textjupiter -> \Jupiter (marvosym)
18865 % U+2644 SATURN; \saturn (wasysym)
18866 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18867 %* \textsaturn -> \Saturn (marvosym)
18868 % U+2645 URANUS; \uranus (wasysym)
18869 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18870 %* \texturanus -> \Uranus (marvosym)
18871 % U+2646 NEPTUNE; \neptune (wasysym)
18872 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18873 %* \textneptune -> \Neptune (marvosym)
18874 % U+2647 PLUTO; \pluto (wasysym)
18875 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18876 %* \textpluto -> \Pluto (marvosym)
18877 % U+2648 ARIES; \aries (wasysym)
18878 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18879 %* \textaries -> \Aries (marvosym)
18880 % U+2649 TAURUS; \taurus (wasysym)
18881 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18882 %* \texttaurus -> \Taurus (marvosym)
18883 % U+264A GEMINI; \gemini (wasysym)
18884 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18885 %* \textgemini -> \Gemini (marvosym)
18886 % U+264B CANCER; \cancer (wasysym)
18887 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18888 %* \textcancer -> \Cancer (marvosym)
18889 % U+264C LEO; \leo (wasysym)
18890 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18891 %* \textleo -> \Leo (marvosym)
18892 % U+264D VIRGO; \virgo (wasysym)
18893 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18894 %* \textvirgo -> \Virgo (marvosym)
18895 % U+264E LIBRA; \libra (wasysym)

```

```

18896 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18897 %* \textlibra -> \Libra (marvosym)
18898 % U+264F SCORPIO; \scorpio (wasysym)
18899 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18900 %* \textscorpio -> \Scorpio (marvosym)
18901 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18902 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18903 %* \textsagittarius -> \Sagittarius (marvosym)
18904 % U+2651 CAPRICORN; \capricornus (wasysym)
18905 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18906 %* \textcapricornus -> \Capricorn (marvosym)
18907 % U+2652 AQUARIUS; \aquarius (wasysym)
18908 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18909 %* \textaquarius -> \Aquarius (marvosym)
18910 % U+2653 PISCES; \pisces (wasysym)
18911 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18912 %* \textpisces -> \Pisces (marvosym)
18913 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18914 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18915 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18916 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18917 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18918 %* \textheartsuitwhite -> \Heart (marvosym)
18919 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18920 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18921 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18922 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18923 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18924 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18925 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18926 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18927 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18928 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18929 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18930 % U+2666 BLACK DIAMOND SUIT; diamond
18931 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18932 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18933 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18934 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18935 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18936 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18937 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18938 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18939 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18940 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18941 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
18942 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18943 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18944 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18945 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18946 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18947 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18948 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F

```

18949 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
 18950 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
 18951 %* \textrecycle -> \Recycling (marvosym)
 18952 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
 18953 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
 18954 % U+2691 BLACK FLAG; \Flag (ifsym)
 18955 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
 18956 %* \textFlag -> \VarFlag (ifsym)
 18957 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
 18958 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
 18959 % U+2694 CROSSED SWORDS; \dsmlilitary (dictsym)
 18960 \DeclareTextCommand{\textdsmlilitary}{PU}{\9046\224}%* U+2694
 18961 %* \textdsmlilitary -> \textxswup (fourier)
 18962 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
 18963 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
 18964 % U+2696 SCALES; \dsjuridical (dictsym)
 18965 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
 18966 % U+2697 ALEMBIC; \dschemical (dictsym)
 18967 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
 18968 % U+2698 FLOWER; \dsbiological (dictsym)
 18969 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
 18970 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
 18971 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
 18972 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
 18973 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
 18974 % U+26A0 WARNING SIGN; \danger (fourier)
 18975 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
 18976 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
 18977 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
 18978 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
 18979 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
 18980 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)
 18981 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
 18982 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
 18983 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
 18984 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
 18985 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
 18986 % U+26AD MARRIAGE SYMBOL
 18987 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 18988 % U+26AE DIVORCE SYMBOL
 18989 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
 18990 % U+26B2 NEUTER; \textuncrfemale (tipx)
 18991 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2
 18992 %* \textPUuncrfemale -> \textuncrfemale (tipx)
 18993 % U+26B9 SEXTILE; \hexstar (wasysym)
 18994 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
 18995 % U+26BD SOCCER BALL; \Football (marvosym)
 18996 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
 18997 %* \textSoccerBall -> \Football (marvosym)
 18998 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
 18999 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
 19000 % U+26C6 RAIN; \Rain (ifsym)
 19001 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6

19002 % U+26D4 NO ENTRY; \noway (fourier)
19003 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
19004 % U+26F0 MOUNTAIN; \Mountain (ifsym)
19005 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
19006 % U+26FA TENT; \Tent (ifsym)
19007 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

46.2.30 Dingbats: U+2700 to U+27BF

19008 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbling)
19009 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
19010 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
19011 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
19012 % U+2702 BLACK SCISSORS; \ScissorRight (bbling)
19013 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
19014 %* \textScissorRight -> \RightScissors (marvosym)
19015 %* \textScissorRight -> \Leftscissors (marvosym)
19016 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbling)
19017 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
19018 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbling)
19019 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
19020 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbling)
19021 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
19022 % U+2707 TAPE DRIVE; \Tape (bbling)
19023 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
19024 % U+2708 AIRPLANE; \Plane (bbling)
19025 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
19026 % U+2709 ENVELOPE; \Envelope (bbling),
19027 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
19028 %* \textEnvelope -> \Letter (marvosym)
19029 % U+270C VICTORY HAND; \Peace (bbling)
19030 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
19031 % U+270D WRITING HAND; \WritingHand (marvosym)
19032 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
19033 %* \textWritingHand -> \Writinghand (marvosym)
19034 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bbling)
19035 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E
19036 % U+270F PENCIL; \PencilRight (bbling)
19037 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
19038 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bbling)
19039 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
19040 % U+2711 WHITE NIB; \NibRight (bbling)
19041 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
19042 % U+2712 BLACK NIB; \NibSolidRight (bbling)
19043 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
19044 % U+2713 CHECK MARK; checkmark; \Checkmark (bbling)
19045 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
19046 %* \textCheckmark -> \checkmark (MnSymbol)
19047 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bbling)
19048 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
19049 % U+2715 MULTIPLICATION X; \XSolid (bbling)
19050 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
19051 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bbling)
19052 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
19053 % U+2717 BALLOT X; \XSolidBrush (bbling)

19054 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
 19055 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)
 19056 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
 19057 % U+271A HEAVY GREEK CROSS; \Plus (bding)
 19058 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A
 19059 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)
 19060 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
 19061 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
 19062 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
 19063 % U+271D LATIN CROSS; \Cross (bding)
 19064 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
 19065 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
 19066 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
 19067 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
 19068 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
 19069 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
 19070 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
 19071 % U+2721 STAR OF DAVID; \DavidStar (bding)
 19072 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
 19073 %* \textDavidStar -> \davidstar (wasysym)
 19074 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
 19075 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
 19076 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
 19077 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
 19078 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
 19079 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
 19080 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
 19081 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
 19082 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
 19083 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
 19084 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
 19085 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
 19086 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
 19087 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
 19088 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)
 19089 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
 19090 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
 19091 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
 19092 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
 19093 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
 19094 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
 19095 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
 19096 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
 19097 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
 19098 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
 19099 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
 19100 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
 19101 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
 19102 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
 19103 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
 19104 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
 19105 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
 19106 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)

19107 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735
 19108 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)
 19109 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
 19110 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
 19111 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737
 19112 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
 19113 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
 19114 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
 19115 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
 19116 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
 19117 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
 19118 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
 19119 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
 19120 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
 19121 % \SixFlowerOpenCenter (bding)
 19122 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
 19123 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
 19124 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
 19125 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
 19126 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
 19127 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
 19128 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
 19129 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
 19130 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
 19131 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
 19132 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
 19133 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
 19134 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
 19135 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)
 19136 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
 19137 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
 19138 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
 19139 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
 19140 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
 19141 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
 19142 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
 19143 % U+2747 SPARKLE; \Sparkle (bding)
 19144 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
 19145 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
 19146 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
 19147 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
 19148 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
 19149 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19150 % \EightFlowerPetalRemoved (bding)
 19151 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
 19152 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19153 % \EightAsterisk (bding)

19154 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
 19155 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bbding)
 19156 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 19157 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 19158 % \SquareShadowBottomRight (bbding)
 19159 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F
 19160 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 19161 % \SquareShadowTopRight (bbding)
 19162 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%* U+2750
 19163 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 19164 % \SquareCastShadowBottomRight (bbding)
 19165 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 19166 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 19167 % \SquareCastShadowTopRight (bbding)
 19168 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 19169 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bb-
 ding)
 19170 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%* U+2756
 19171 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bbding)
 19172 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 19173 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bbding)
 19174 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 19175 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)
 19176 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

46.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19177 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 19178 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 19179 % \notperp (mathabx)
 19180 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 19181 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 19182 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 19183 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 19184 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 19185 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 19186 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC
 19187 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 19188 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
 19189 %* \textlbrackdbl -> \llbracket (stmaryrd)
 19190 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 19191 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
 19192 %* \textrbrackdbl -> \rrbracket (stmaryrd)

46.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19193 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
 19194 % \circlearrowleft (AmS)
 19195 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
 19196 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
 19197 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
 19198 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
 19199 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
 19200 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
 19201 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
 19202 % U+27F7 LONG LEFT RIGHT ARROW; \longleftarrowrightarrow (AmS)

```

19203 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\367}%* U+27F7
19204 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
19205 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
19206 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)
19207 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
19208 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)
19209 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%* U+27FA
19210 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
19211 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
19212 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
    from (stmaryrd)
19213 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
19214 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
    sto (stmaryrd)
19215 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

```

46.2.33 Supplemental Arrows-B: U+2900 to U+297F

```

19216 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
    bol)
19217 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
19218 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
    bol)
19219 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
19220 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
19221 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%* U+2923
19222 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)
19223 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
19224 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)
19225 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%* U+2925
19226 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)
19227 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
19228 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
19229 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
19230 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
19231 % \rcurvearrowne (MnSymbol)
19232 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934
19233 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
    WARDS;
19234 % \lcurvearrowse (MnSymbol)
19235 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
19236 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
    WARDS;
19237 % \lcurvearrowsw (MnSymbol)
19238 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
19239 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
    WARDS;
19240 % \rcurvearrowse (MnSymbol)
19241 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
19242 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
    Symbol)
19243 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
19244 %* \textlcurvearrowdown -> \RightTorque (marvosym)
19245 %* \textlcurvearrowdown -> \Righttorque (marvosym)
19246 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;

```



```

19247 % \rcurvearrowdown (MnSymbol)
19248 \DeclareTextCommand{\texttrcurvearrowdown}{PU}{\9051\071}%* U+2939
19249 %* \texttrcurvearrowdown -> \LeftTorque (marvosym)
19250 %* \texttrcurvearrowdown -> \Lefttorque (marvosym)
19251 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
bol)
19252 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%* U+293A
19253 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
19254 % \rcurvearrowright (MnSymbol)
19255 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%* U+293B
19256 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-
poon (mathabx)
19257 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
19258 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-
poon (mathabx)
19259 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
19260 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
19261 % \updownharpoonrightleft (MnSymbol)
19262 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
19263 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
19264 % \updownharpoonleftright (MnSymbol)
19265 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
19266 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
19267 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
19268 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
19269 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
19270 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
19271 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
19272 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
WARDS HARPOON
19273 % WITH BARB DOWN; \rightrightarpoons (mathabx)
19274 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
19275 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
WARDS HARPOON
19276 % WITH BARB RIGHT; \downdownharpoons (mathabx)
19277 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
19278 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
19279 % \leftbarharpoon (mathabx)
19280 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
19281 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
19282 % LONG DASH; \barleftharpoon (mathabx)
19283 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
19284 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
19285 % LONG DASH; \rightbarharpoon (mathabx)
19286 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
19287 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
19288 % LONG DASH; \barrightharpoon (mathabx)
19289 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
19290 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
WARDS HARPOON
19291 % WITH BARB RIGHT; \updownharpoons (mathabx)
19292 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
19293 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
WARDS HARPOON

```

19294 % WITH BARB RIGHT; \downupharpoons (mathabx)
 19295 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
 19296 % U+297F DOWN FISH TAIL
 19297 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

46.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19298 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)
 19299 \DeclareTextCommand{\textlparenthesis}{PU}{\9051\207}%* U+2987
 19300 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 19301 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 19302 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 19303 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 19304 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 19305 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 19306 %* \textobar -> \textvarobar (stmaryrd)
 19307 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 19308 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 19309 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 19310 %* \textobslash -> \obackslash (mathabx)
 19311 %* \textobslash -> \varobslash (stmaryrd)
 19312 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 19313 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
 19314 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 19315 %* \textobot -> \odplus (ulsy)
 19316 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)
 19317 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 19318 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 19319 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 19320 %* \textolessthan -> \varolessthan (stmaryrd)
 19321 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 19322 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 19323 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 19324 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 19325 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
 19326 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
 19327 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
 19328 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 19329 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 19330 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 19331 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 19332 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 19333 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 19334 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 19335 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 19336 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 19337 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 19338 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 19339 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

46.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19340 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 19341 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 19342 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)

```

19343 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19344 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19345 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19346 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19347 %   pxfonts, wasysym)
19348 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19349 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19350 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19351 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19352 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19353 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19354 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19355 %* \textminusdot -> \divdot (mathabx)
19356 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
19357 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19358 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19359 %   \dtimes (mathdesign)
19360 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19361 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19362 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19363 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19364 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19365 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19366 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19367 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19368 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19369 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19370 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19371 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19372 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19373 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19374 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19375 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19376 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19377 %* \textdoublevee -> \merge (stmaryrd)
19378 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19379 %   \doublebarwedge (AmS)
19380 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19381 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19382 %   \veedoublebar (mahtabx)
19383 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19384 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19385 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19386 % \neqdot (MnSymbol)
19387 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19388 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19389 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19390 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19391 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19392 % \nleqslant (txfonts/pxfonts)
19393 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19394 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19395 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19396 % \ngeqslant (txfonts/pxfonts)

```

19397 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
 19398 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
 19399 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
 19400 % \nlessapprox (txfonts/pxfonts)
 19401 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
 19402 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
 19403 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
 19404 % \ngtrapprox (txfonts/pxfonts)
 19405 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
 19406 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
 19407 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
 19408 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
 19409 % \gneq (AmS)
 19410 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
 19411 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
 19412 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
 19413 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
 19414 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
 19415 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
 THAN;
 19416 % \lesseqqgtr (AmS)
 19417 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
 19418 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
 THAN;
 19419 % \gtreqqless (AmS)
 19420 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%* U+2A8C
 19421 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
 19422 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
 19423 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
 19424 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
 19425 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
 19426 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
 19427 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
 19428 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
 19429 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
 Symbol)
 19430 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
 19431 % \npreceq (txfonts/pxfonts)
 19432 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
 19433 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
 Symbol)
 19434 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
 19435 % \nsucceq (txfonts/pxfonts)
 19436 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
 19437 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
 neq (mathabx)
 19438 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
 19439 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
 neq (mathabx)
 19440 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
 19441 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
 19442 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
 19443 % \npreceqq (txfonts/pxfonts)
 19444 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338

```

19445 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19446 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19447 % \nsucceqq (txfonts/pxfonts)
19448 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19449 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19450 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19451 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19452 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19453 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19454 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19455 % \nprecapprox (txfonts/pxfonts)
19456 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19457 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19458 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19459 % \nsuccapprox (txfonts/pxfonts)
19460 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19461 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnapprox (AmS)
19462 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19463 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnapprox (AmS)
19464 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19465 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19466 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19467 % \nsubseteqq (txfonts/pxfonts, mathabx)
19468 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19469 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19470 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19471 % \nsupseteqq (mathabx)
19472 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19473 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19474 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19475 %* \textdashV -> \leftVdash (MnSymbol)
19476 % \ndashV (mathabx)
19477 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19478 %* \textndashV -> \nleftVdash (MnSymbol)
19479 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19480 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19481 %* \textDashv -> \leftmodels (MnSymbol)
19482 % \nDashv (mathabx)
19483 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19484 %* \textnDashv -> \nleftmodels (MnSymbol)
19485 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19486 % \DashV (mathabx)
19487 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19488 %* \textDashV -> \leftModels (MnSymbol)
19489 % \nDashV (mathabx)
19490 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19491 %* \textnDashV -> \nleftModels (MnSymbol)
19492 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19493 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19494 % \ndownmodels (MnSymbol)
19495 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19496 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)

```

19497 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
 19498 % \nupmodels (MnSymbol)
 19499 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 19500 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 19501 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 19502 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
 19503 % \interleave (stmaryrd)
 19504 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 19505 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
 19506 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 19507 %* \textsslash -> \varparallel (txfonts\pxfonts)

46.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19508 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 19509 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 19510 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 19511 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

46.2.37 Latin Extended-C: U+2C60 to U+2C7F

19512 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 19513 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

46.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19514 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
 19515 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
 19516 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
 19517 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
 19518 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
 19519 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

46.2.39 Modifier Tone Letters: U+A700 to U+A71F

19520 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
 19521 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
 19522 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
 19523 % \textdownstep (tipa)
 19524 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

46.2.40 Latin Extended-D: U+A720 to U+A7FF

19525 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
 19526 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
 19527 %* \textPUheng -> \textheng (tipx)
 19528 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
 19529 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
 19530 %* \textPULhookfour -> \textlhookfour (tipx)
 19531 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
 19532 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
 19533 %* \textPUscf -> \textscf (tipx)
 19534 % U+A735 LATIN SMALL LETTER AO; \textaalig (tipx)
 19535 \DeclareTextCommand{\textPUaalig}{PU}{\9247\065}% U+A735
 19536 %* \textPUaalig -> \textaalig (tipx)
 19537 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
 19538 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
 19539 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
 19540 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

46.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19541 % U+FB01 LATIN SMALL LIGATURE FI; fi
19542 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
19543 % U+FB02 LATIN SMALL LIGATURE FL; fl
19544 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

46.2.42 Musical Symbols: U+1D100 to U+1D1FF

19545 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
19546 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
19547 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
19548 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
19549 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
19550 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
19551 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
19552 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
19553 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
19554 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
19555 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
19556 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
19557 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
19558 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
19559 %* \textfullnote -> \Ganz (harmony)
19560 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
19561 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
19562 %* \texthalfnote -> \Halb (harmony)
19563 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
19564 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
19565 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
19566 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
19567 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
19568 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
19569 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
19570 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162

46.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19571 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
19572 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
19573 % U+1F319 CRESCENT MOON; \Moon (marvosym)
19574 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
19575 % U+1F468 MAN; \ManFace (marvosym)
19576 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
19577 % U+1F469 WOMAN; \WomanFace (marvosym)
19578 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
19579 %* \textWomanFace -> \Womanface (marvosym)
19580 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
19581 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
19582 %* \textFax -> \Faxmachine (marvosym)
19583 % U+1F525 FIRE; \Fire (ifsym)
19584 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

46.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19585 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
19586 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2

```

19587 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
19588 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
19589 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
19590 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

```

46.2.45 Miscellaneous

```

19591 \DeclareTextCommand{\SS}{PU}{SS}%
19592 % \textcopyleft (textcomp)
19593 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19594 % \ccnc (ccllicenses)
19595 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19596 % \ccnd (ccllicenses)
19597 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19598 % \ccsa (ccllicenses)
19599 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19600 % \Info (marvosym, china2e)
19601 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
19602 % \CESign (marvosym)
19603 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
19604 %* \textCESign -> \CESign (marvosym)

```

46.2.46 Aliases

Aliases (german.sty)

```

19605 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19606 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19607 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
19608 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
19609 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
19610 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
19611 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
19612 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

19613 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19614 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19615 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19616 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19617 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19618 </puenc>

```

46.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19619 <*puvnenc>
19620 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19621 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19622 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19623 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19624 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19625 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19626 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19627 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2

```


19628 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
 19629 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
 19630 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
 19631 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

 19632 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
 19633 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
 19634 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
 19635 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
 19636 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
 19637 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
 19638 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
 19639 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
 19640 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
 19641 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
 19642 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
 19643 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
 19644 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
 19645 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
 19646 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
 19647 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
 19648 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
 19649 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
 19650 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
 19651 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 19652 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
 19653 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
 19654 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
 19655 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
 19656 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
 19657 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 19658 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
 19659 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
 19660 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
 19661 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 19662 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 19663 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 19664 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 19665 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
 19666 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 19667 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
 19668 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
 19669 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3
 19670 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
 19671 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
 19672 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
 19673 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
 19674 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD
 19675 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
 19676 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
 19677 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 19678 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 19679 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 19680 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
 19681 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169

19682 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
19683 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1
19684 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB
19685 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
19686 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF
19687 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
19688 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
19689 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
19690 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
19691 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
19692 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
19693 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
19694 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
19695 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
19696 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
19697 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
19698 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
19699 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0
19700 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
19701 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
19702 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
19703 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
19704 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
19705 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
19706 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
19707 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
19708 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
19709 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
19710 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
19711 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
19712 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19713 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19714 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19715 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19716 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19717 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
19718 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19719 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19720 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19721 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19722 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19723 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19724 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19725 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19726 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19727 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19728 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19729 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19730 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19731 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19732 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19733 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19734 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19735 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE

```

19736 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19737 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19738 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19739 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19740 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19741 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19742 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19743 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19744 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19745 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19746 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19747 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19748 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19749 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19750 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19751 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19752 (/puvnenc)

```

46.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19753 (*puarenc)
19754 % U+0621;afii57409;ARABIC LETTER HAMZA
19755 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19756 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19757 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19758 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19759 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19760 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19761 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19762 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19763 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19764 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19765 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19766 % U+0627;afii57415;ARABIC LETTER ALEF
19767 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19768 % U+0628;afii57416;ARABIC LETTER BEH
19769 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19770 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19771 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19772 % U+062A;afii57418;ARABIC LETTER TEH
19773 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19774 % U+062B;afii57419;ARABIC LETTER THEH
19775 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19776 % U+062C;afii57420;ARABIC LETTER JEEM
19777 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19778 % U+062D;afii57421;ARABIC LETTER HAH
19779 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19780 % U+062E;afii57422;ARABIC LETTER KHAH
19781 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19782 % U+062F;afii57423;ARABIC LETTER DAL
19783 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19784 % U+0630;afii57424;ARABIC LETTER THAL

```

19785 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
 19786 % U+0631;afii57425;ARABIC LETTER REH
 19787 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
 19788 % U+0632;afii57426;ARABIC LETTER ZAIN
 19789 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
 19790 % U+0633;afii57427;ARABIC LETTER SEEN
 19791 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 19792 % U+0634;afii57428;ARABIC LETTER SHEEN
 19793 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 19794 % U+0635;afii57429;ARABIC LETTER SAD
 19795 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 19796 % U+0636;afii57430;ARABIC LETTER DAD
 19797 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 19798 % U+0637;afii57431;ARABIC LETTER TAH
 19799 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 19800 % U+0638;afii57432;ARABIC LETTER ZAH
 19801 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 19802 % U+0639;afii57433;ARABIC LETTER AIN
 19803 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 19804 % U+063A;afii57434;ARABIC LETTER GHAIN
 19805 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 19806 % U+0640;afii57440;ARABIC TATWEEL
 19807 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 19808 % U+0641;afii57441;ARABIC LETTER FEH
 19809 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 19810 % U+0642;afii57442;ARABIC LETTER QAF
 19811 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 19812 % U+0643;afii57443;ARABIC LETTER KAF
 19813 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 19814 % U+0644;afii57444;ARABIC LETTER LAM
 19815 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 19816 % U+0645;afii57445;ARABIC LETTER MEEM
 19817 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 19818 % U+0646;afii57446;ARABIC LETTER NOON
 19819 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 19820 % U+0647;afii57470;ARABIC LETTER HEH
 19821 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 19822 % U+0648;afii57448;ARABIC LETTER WAW
 19823 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 19824 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA
 19825 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 19826 % U+064A;afii57450;ARABIC LETTER YEH
 19827 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A
 19828 % U+064B;afii57451;ARABIC FATHATAN
 19829 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B
 19830 % U+064C;afii57452;ARABIC DAMMATAN
 19831 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 19832 % U+064D;afii57453;ARABIC KASRATAN
 19833 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 19834 % U+064E;afii57454;ARABIC FATHA
 19835 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 19836 % U+064F;afii57455;ARABIC DAMMA
 19837 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 19838 % U+0650;afii57456;ARABIC KASRA

19839 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 19840 % U+0651;afi57457;ARABIC SHADDA
 19841 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 19842 % U+0652;afi57458;ARABIC SUKUN
 19843 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652

 Farsi
 19844 % U+067E ARABIC LETTER PEH; afi57506
 19845 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
 19846 % U+0686 ARABIC LETTER TCHEH; afi57507
 19847 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
 19848 % U+0698 ARABIC LETTER JEH; afi57508
 19849 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
 19850 % U+06A9 ARABIC LETTER KEHEH
 19851 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
 19852 % U+06AF ARABIC LETTER GAF; afi57509
 19853 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
 19854 % U+06CC ARABIC LETTER FARSI YEH
 19855 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC

 19856 % U+200C ZERO WIDTH NON-JOINER; afi61664
 19857 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C
 19858 % U+200D ZERO WIDTH JOINER; afi301
 19859 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D

 19860 (/puarenc)

 19861 (*psdextra)
 19862 \Hy@VersionCheck{psdextra.def}
 19863 \newcommand*{\psdmapshortnames}{%
 19864 \let\MVPlus\textMVPlus
 19865 \let\MVComma\textMVComma
 19866 \let\MVMinus\textMVMinus
 19867 \let\MVPeriod\textMVPeriod
 19868 \let\MVDivision\textMVDivision
 19869 \let\MVZero\textMVZero
 19870 \let\MVOne\textMVOne
 19871 \let\MVTwo\textMVTwo
 19872 \let\MVThree\textMVThree
 19873 \let\MVFour\textMVFour
 19874 \let\MVFive\textMVFive
 19875 \let\MVSix\textMVSix
 19876 \let\MVSeven\textMVSeven
 19877 \let\MVEight\textMVEight
 19878 \let\MVNine\textMVNine
 19879 \let\MVAt\textMVAt
 19880 \let\copyright\textcopyright
 19881 \let\twosuperior\texttwosuperior
 19882 \let\threesuperior\textthreesuperior
 19883 \let\onesuperior\textonesuperior
 19884 \let\Thorn\textThorn
 19885 \let\thorn\textthorn
 19886 \let\hbar\texthbar
 19887 \let\hausaB\texthausaB
 19888 \let\hausaD\texthausaD
 19889 \let\hausaK\texthausaK

19890 \let\barl\textbarl
 19891 \let\inve\textinve
 19892 \let\slashc\textslashc
 19893 \let\scripta\textscripta
 19894 \let\openo\textopeno
 19895 \let\rtaild\textrtaild
 19896 \let\reve\textreve
 19897 \let\schwa\textschwa
 19898 \let\niepsilon\textniepsilon
 19899 \let\revepsilon\textrevepsilon
 19900 \let\rhookrevepsilon\texthookrevepsilon
 19901 \let\scriptg\textscriptg
 19902 \let\scg\textscg
 19903 \let\ipagamma\textipagamma
 19904 \let\babygamma\textbabygamma
 19905 \let\bari\textbari
 19906 \let\niiota\textniiota
 19907 \let\sci\textsci
 19908 \let\scn\textscn
 19909 \let\niphi\textniphi
 19910 \let\longlegr\textlonglegr
 19911 \let\scr\textscr
 19912 \let\invscr\textinvscr
 19913 \let\esh\textesh
 19914 \let\baru\textbaru
 19915 \let\niupsilon\textniupsilon
 19916 \let\scriptv\textscriptv
 19917 \let\turnv\textturnv
 19918 \let\turnw\textturnw
 19919 \let\turny\textturny
 19920 \let\scy\textscy
 19921 \let\yogh\textyogh
 19922 \let\glotstop\textglotstop
 19923 \let\revglotstop\textrevglotstop
 19924 \let\invglotstop\textinvglotstop
 19925 \let\Gamma\textGamma
 19926 \let\Delta\textDelta
 19927 \let\Theta\textTheta
 19928 \let\Lambda\textLambda
 19929 \let\Xi\textXi
 19930 \let\Pi\textPi
 19931 \let\Sigma\textSigma
 19932 \let\Upsilon\textUpsilon
 19933 \let\Phi\textPhi
 19934 \let\Psi\textPsi
 19935 \let\Omega\textOmega
 19936 \let\alpha\textalpha
 19937 \let\beta\textbeta
 19938 \let\gamma\textgamma
 19939 \let\delta\textdelta
 19940 \let\epsilon\textepsilon
 19941 \let\zeta\textzeta
 19942 \let\eta\texteta
 19943 \let\theta\texttheta

19944 \let\iota\textiota
 19945 \let\kappa\textkappa
 19946 \let\lambda\textlambda
 19947 \let\mu\textmu
 19948 \let\mugreek\textmugreek
 19949 \let\nu\textnu
 19950 \let\xi\textxi
 19951 \let\pi\textpi
 19952 \let\rho\textrho
 19953 \let\varsigma\textvarsigma
 19954 \let\sigma\textsigma
 19955 \let\tau\texttau
 19956 \let\upsilon\textupsilon
 19957 \let\phi\textphi
 19958 \let\chi\textchi
 19959 \let\psi\textpsi
 19960 \let\omega\textomega
 19961 \let\scd\textscd
 19962 \let\scu\textscu
 19963 \let\iinferior\textiinferior
 19964 \let\rinferior\extrinferior
 19965 \let\uiinferior\textuiinferior
 19966 \let\vinferior\textvinferior
 19967 \let\betainferior\textbetainferior
 19968 \let\gammainferior\textgammainferior
 19969 \let\rhoinferior\textrhoinferior
 19970 \let\phiinferior\textphiinferior
 19971 \let\chiinferior\textchiinferior
 19972 \let\barsci\textbarsci
 19973 \let\barp\textbarp
 19974 \let\barscu\textbarscu
 19975 \let\htrtaild\texthtrtaild
 19976 \let\dagger\textdagger
 19977 \let\bullet\textbullet
 19978 \let\hdotfor\texthdotfor
 19979 \let\prime\textprime
 19980 \let\second\textsecond
 19981 \let\third\textthird
 19982 \let\backprime\textbackprime
 19983 \let\lefttherefore\textlefttherefore
 19984 \let\fourth\textfourth
 19985 \let\diamonddots\textdiamonddots
 19986 \let\zerosuperior\textzerosuperior
 19987 \let\isuperior\textisuperior
 19988 \let\foursuperior\textfoursuperior
 19989 \let\fivesuperior\textfivesuperior
 19990 \let\sixsuperior\textsixsuperior
 19991 \let\sevensuperior\textsevensuperior
 19992 \let\eightsuperior\texteightsuperior
 19993 \let\ninesuperior\textninesuperior
 19994 \let\plussuperior\textplussuperior
 19995 \let\minussuperior\textminussuperior
 19996 \let\equalsuperior\textequalsuperior
 19997 \let\parenleftsuperior\textparenleftsuperior

19998 \let\parenrightsuperior\textparenrightsuperior
 19999 \let\nsuperior\textnsuperior
 20000 \let\zeroinferior\textzeroinferior
 20001 \let\oneinferior\textoneinferior
 20002 \let\twoinferior\texttwoinferior
 20003 \let\threeinferior\textthreeinferior
 20004 \let\fourinferior\textfourinferior
 20005 \let\fiveinferior\textfiveinferior
 20006 \let\sixinferior\textsixinferior
 20007 \let\seveninferior\textseveninferior
 20008 \let\eightinferior\texteightinferior
 20009 \let\nineinferior\textnineinferior
 20010 \let\plusinferior\textplusinferior
 20011 \let\minusinferior\textminusinferior
 20012 \let\equalsinferior\textequalsinferior
 20013 \let\parenleftinferior\textparenleftinferior
 20014 \let\parenrightinferior\textparenrightinferior
 20015 \let\ainferior\textainferior
 20016 \let\einferior\texteinferior
 20017 \let\oinferior\textoinferior
 20018 \let\xinferior\textxinferior
 20019 \let\schwainferior\textschwainferior
 20020 \let\hinferior\texthinferior
 20021 \let\kinferior\textkinferior
 20022 \let\linferior\textlinferior
 20023 \let\minferior\textminferior
 20024 \let\ninferior\textninferior
 20025 \let\pinferior\textpinferior
 20026 \let\sinferior\textsinferior
 20027 \let\tinferior\texttinferior
 20028 \let\Deleatur\textDeleatur
 20029 \let\hslash\texthslash
 20030 \let\Im\textIm
 20031 \let\ell\textell
 20032 \let\wp\textwp
 20033 \let\Re\textRe
 20034 \let\mho\textmho
 20035 \let\riota\textriota
 20036 \let\Finv\textFinv
 20037 \let\aleph\textaleph
 20038 \let\beth\textbeth
 20039 \let\gimel\textgimel
 20040 \let\daleth\textdaleth
 20041 \let\xrightarrow\textxrightarrow
 20042 \let\Game\textGame
 20043 \let\leftarrow\textleftarrow
 20044 \let\uparrow\textuparrow
 20045 \let\rightarrow\textrightarrow
 20046 \let\downarrow\textdownarrow
 20047 \let\leftrightarrow\textleftrightarrow
 20048 \let\updownarrow\textupdownarrow
 20049 \let\nwarrow\textnwarrow
 20050 \let\nearrow\textnearrow
 20051 \let\searrow\textsearrow

20052 \let\swarrow\textswarrow
 20053 \let\nleftarrow\textnleftarrow
 20054 \let\nrightarrow\textnrightarrow
 20055 \let\twoheadleftarrow\texttwoheadleftarrow
 20056 \let\ntwoheadleftarrow\textntwoheadleftarrow
 20057 \let\twoheaduparrow\texttwoheaduparrow
 20058 \let\twoheadrightarrow\texttwoheadrightarrow
 20059 \let\ntwoheadrightarrow\textntwoheadrightarrow
 20060 \let\twoheaddownarrow\texttwoheaddownarrow
 20061 \let\leftarrowtail\textleftarrowtail
 20062 \let\rightarrowtail\textrightarrowtail
 20063 \let\mapsto\textmapsto
 20064 \let\hookrightarrow\texthookrightarrow
 20065 \let\hookrightarrow\texthookrightarrow
 20066 \let\looparrowleft\textlooparrowleft
 20067 \let\looparrowright\textlooparrowright
 20068 \let\nleftrightarrow\textnleftrightarrow
 20069 \let\lightning\textlightning
 20070 \let\dlsh\textdlsh
 20071 \let\curvearrowleft\textcurvearrowleft
 20072 \let\curvearrowright\textcurvearrowright
 20073 \let\leftharpoonup\textleftharpoonup
 20074 \let\leftharpoondown\textleftharpoondown
 20075 \let\upharpoonright\textupharpoonright
 20076 \let\upharpoonleft\textupharpoonleft
 20077 \let\upharpoonright\textupharpoonright
 20078 \let\upharpoonleft\textupharpoonleft
 20079 \let\downharpoonright\textdownharpoonright
 20080 \let\downharpoonleft\textdownharpoonleft
 20081 \let\rightleftarrows\textrightleftarrows
 20082 \let\updownarrows\textupdownarrows
 20083 \let\leftrightarrows\textleftrightarrows
 20084 \let\leftleftarrows\textleftleftarrows
 20085 \let\upuparrows\textupuparrows
 20086 \let\righttrightarrows\textrighttrightarrows
 20087 \let\downdownarrows\textdowndownarrows
 20088 \let\leftrightharpoons\textleftrightharpoons
 20089 \let\rightleftharpoons\textrightleftharpoons
 20090 \let\nLeftarrow\textnLeftarrow
 20091 \let\nLeftrightarrow\textnLeftrightarrow
 20092 \let\nRrightarrow\textnRrightarrow
 20093 \let\Leftarrow\textLeftarrow
 20094 \let\Uparrow\textUparrow
 20095 \let\Rrightarrow\textRrightarrow
 20096 \let\Downarrow\textDownarrow
 20097 \let\Leftrightarrow\textLeftrightarrow
 20098 \let\Updownarrow\textUpdownarrow
 20099 \let\Nrightarrow\textNrightarrow
 20100 \let\Nearrow\textNearrow
 20101 \let\Searrow\textSearrow
 20102 \let\Swarrow\textSwarrow
 20103 \let\Lleftarrow\textLleftarrow
 20104 \let\Rrightarrow\textRrightarrow
 20105 \let\leftsquigarrow\textleftsquigarrow

20106 $\backslash\text{let}\backslash\text{rightsquigarrow}\backslash\text{textrightsquigarrow}$
 20107 $\backslash\text{let}\backslash\text{dashleftarrow}\backslash\text{texdashleftarrow}$
 20108 $\backslash\text{let}\backslash\text{dasheduparrow}\backslash\text{texdasheduparrow}$
 20109 $\backslash\text{let}\backslash\text{dashrightarrow}\backslash\text{texdashrightarrow}$
 20110 $\backslash\text{let}\backslash\text{dasheddownarrow}\backslash\text{texdasheddownarrow}$
 20111 $\backslash\text{let}\backslash\text{pointer}\backslash\text{textpointer}$
 20112 $\backslash\text{let}\backslash\text{downuparrows}\backslash\text{texdownuparrows}$
 20113 $\backslash\text{let}\backslash\text{leftarrowtriangle}\backslash\text{texleftarrowtriangle}$
 20114 $\backslash\text{let}\backslash\text{rightarrowtriangle}\backslash\text{texrightarrowtriangle}$
 20115 $\backslash\text{let}\backslash\text{leftrightarrowtriangle}\backslash\text{texleftrightarrowtriangle}$
 20116 $\backslash\text{let}\backslash\text{forall}\backslash\text{textforall}$
 20117 $\backslash\text{let}\backslash\text{complement}\backslash\text{textcomplement}$
 20118 $\backslash\text{let}\backslash\text{partial}\backslash\text{textpartial}$
 20119 $\backslash\text{let}\backslash\text{exists}\backslash\text{textexists}$
 20120 $\backslash\text{let}\backslash\text{nexists}\backslash\text{texnexists}$
 20121 $\backslash\text{let}\backslash\text{emptyset}\backslash\text{textemptyset}$
 20122 $\backslash\text{let}\backslash\text{triangle}\backslash\text{texttriangle}$
 20123 $\backslash\text{let}\backslash\text{nabla}\backslash\text{texnabla}$
 20124 $\backslash\text{let}\backslash\text{in}\backslash\text{textin}$
 20125 $\backslash\text{let}\backslash\text{notin}\backslash\text{textnotin}$
 20126 $\backslash\text{let}\backslash\text{smallin}\backslash\text{textsmallin}$
 20127 $\backslash\text{let}\backslash\text{ni}\backslash\text{textni}$
 20128 $\backslash\text{let}\backslash\text{notowner}\backslash\text{textnotowner}$
 20129 $\backslash\text{let}\backslash\text{smallowns}\backslash\text{textsmallowns}$
 20130 $\backslash\text{let}\backslash\text{prod}\backslash\text{textprod}$
 20131 $\backslash\text{let}\backslash\text{amalg}\backslash\text{textamalg}$
 20132 $\backslash\text{let}\backslash\text{sum}\backslash\text{textsum}$
 20133 $\backslash\text{let}\backslash\text{mp}\backslash\text{textmp}$
 20134 $\backslash\text{let}\backslash\text{dotplus}\backslash\text{texdotplus}$
 20135 $\backslash\text{let}\backslash\text{Divides}\backslash\text{textDivides}$
 20136 $\backslash\text{let}\backslash\text{DividesNot}\backslash\text{textDividesNot}$
 20137 $\backslash\text{let}\backslash\text{setminus}\backslash\text{textsetminus}$
 20138 $\backslash\text{let}\backslash\text{ast}\backslash\text{textast}$
 20139 $\backslash\text{let}\backslash\text{circ}\backslash\text{textcirc}$
 20140 $\backslash\text{let}\backslash\text{surd}\backslash\text{textsurd}$
 20141 $\backslash\text{let}\backslash\text{propto}\backslash\text{textpropto}$
 20142 $\backslash\text{let}\backslash\text{infty}\backslash\text{textinfty}$
 20143 $\backslash\text{let}\backslash\text{angle}\backslash\text{textangle}$
 20144 $\backslash\text{let}\backslash\text{measuredangle}\backslash\text{textmeasuredangle}$
 20145 $\backslash\text{let}\backslash\text{sphericalangle}\backslash\text{textsphericalangle}$
 20146 $\backslash\text{let}\backslash\text{mid}\backslash\text{textmid}$
 20147 $\backslash\text{let}\backslash\text{nmid}\backslash\text{texnmid}$
 20148 $\backslash\text{let}\backslash\text{parallel}\backslash\text{textparallel}$
 20149 $\backslash\text{let}\backslash\text{nparallel}\backslash\text{texnparallel}$
 20150 $\backslash\text{let}\backslash\text{wedge}\backslash\text{textwedge}$
 20151 $\backslash\text{let}\backslash\text{owedge}\backslash\text{textowedge}$
 20152 $\backslash\text{let}\backslash\text{vee}\backslash\text{textvee}$
 20153 $\backslash\text{let}\backslash\text{ovee}\backslash\text{textovee}$
 20154 $\backslash\text{let}\backslash\text{cap}\backslash\text{textcap}$
 20155 $\backslash\text{let}\backslash\text{cup}\backslash\text{textcup}$
 20156 $\backslash\text{let}\backslash\text{int}\backslash\text{textint}$
 20157 $\backslash\text{let}\backslash\text{iint}\backslash\text{textiint}$
 20158 $\backslash\text{let}\backslash\text{iiint}\backslash\text{textiiint}$
 20159 $\backslash\text{let}\backslash\text{ooint}\backslash\text{textoint}$

20160 \oint \let\oiint\textoiint
 20161 \ointclockwise \let\ointclockwise\textointclockwise
 20162 \ointctrlockwise \let\ointctrlockwise\textointctrlockwise
 20163 \therefore \let\therefore\texttherefore
 20164 \because \let\because\textbecause
 20165 \vdots \let\vdots\textvdots
 20166 . \let\squaredots\textsquaredots
 20167 $\dot{-}$ \let\dotminus\textdotminus
 20168 eqcolon \let\eqcolon\texteqcolon
 20169 \sim \let\sim\textsim
 20170 \backsim \let\backsim\textbacksim
 20171 \nbacksim \let\nbacksim\textnbacksim
 20172 \wr \let\wr\textwr
 20173 \nsim \let\nsim\textnsim
 20174 \eqsim \let\eqsim\texteqsim
 20175 \neqsim \let\neqsim\textneqsim
 20176 \simeq \let\simeq\textsimeq
 20177 \nsimeq \let\nsimeq\textnsimeq
 20178 \cong \let\cong\textcong
 20179 \ncong \let\ncong\textncong
 20180 \approx \let\approx\textapprox
 20181 \napprox \let\napprox\textnapprox
 20182 \approxeq \let\approxeq\textapproxeq
 20183 \napproxeq \let\napproxeq\textnapproxeq
 20184 \triplesim \let\triplesim\texttriplesim
 20185 \ntriplesim \let\ntriplesim\textntriplesim
 20186 \backcong \let\backcong\textbackcong
 20187 \nbackcong \let\nbackcong\textnbackcong
 20188 \asymp \let\asymp\textasymp
 20189 \nasymp \let\nasymptextnasymp
 20190 \Bumpeq \let\Bumpeq\textBumpeq
 20191 \nBumpeq \let\nBumpeq\textnBumpeq
 20192 \bumpeq \let\bumpeq\textbumpeq
 20193 \nbumpeq \let\nbumpeq\textnbumpeq
 20194 \doteq \let\doteq\textdoteq
 20195 \ndoteq \let\ndoteq\textndoteq
 20196 \doteqdot \let\doteqdot\textdoteqdot
 20197 \nDoteq \let\nDoteq\textnDoteq
 20198 \fallingdoteq \let\fallingdoteq\textfallingdoteq
 20199 \nfallingdoteq \let\nfallingdoteq\textnfallingdoteq
 20200 \risingdoteq \let\risingdoteq\textrisingdoteq
 20201 \nrisingdoteq \let\nrisingdoteq\textnrisingdoteq
 20202 \colonequals \let\colonequals\textcolonequals
 20203 \equalscolon \let\equalscolon\textequalscolon
 20204 \eqcirc \let\eqcirc\texteqcirc
 20205 \neqcirc \let\neqcirc\textneqcirc
 20206 \circeq \let\circeq\textcirceq
 20207 \ncirceq \let\ncirceq\textncirceq
 20208 \hateq \let\hateq\texthateq
 20209 \nhateq \let\nhateq\textnhateq
 20210 \triangleeq \let\triangleeq\texttriangleeq
 20211 \neq \let\neq\textneq
 20212 \ne \let\ne\textne
 20213 \equiv \let\equiv\textequiv

20214 $\backslash\text{let}\backslash\text{nequiv}\backslash\text{textnequiv}$
 20215 $\backslash\text{let}\backslash\text{leq}\backslash\text{textleq}$
 20216 $\backslash\text{let}\backslash\text{le}\backslash\text{textle}$
 20217 $\backslash\text{let}\backslash\text{geq}\backslash\text{textgeq}$
 20218 $\backslash\text{let}\backslash\text{ge}\backslash\text{textge}$
 20219 $\backslash\text{let}\backslash\text{leqq}\backslash\text{textleqq}$
 20220 $\backslash\text{let}\backslash\text{nleqq}\backslash\text{textnleqq}$
 20221 $\backslash\text{let}\backslash\text{geqq}\backslash\text{textgeqq}$
 20222 $\backslash\text{let}\backslash\text{ngeqq}\backslash\text{textngeqq}$
 20223 $\backslash\text{let}\backslash\text{lneqq}\backslash\text{textlneqq}$
 20224 $\backslash\text{let}\backslash\text{gneqq}\backslash\text{textgneqq}$
 20225 $\backslash\text{let}\backslash\text{ll}\backslash\text{textll}$
 20226 $\backslash\text{let}\backslash\text{nll}\backslash\text{textnll}$
 20227 $\backslash\text{let}\backslash\text{gg}\backslash\text{textgg}$
 20228 $\backslash\text{let}\backslash\text{ngg}\backslash\text{textngg}$
 20229 $\backslash\text{let}\backslash\text{between}\backslash\text{textbetween}$
 20230 $\backslash\text{let}\backslash\text{nless}\backslash\text{textnless}$
 20231 $\backslash\text{let}\backslash\text{ngtr}\backslash\text{textngtr}$
 20232 $\backslash\text{let}\backslash\text{nleq}\backslash\text{textnleq}$
 20233 $\backslash\text{let}\backslash\text{ngeq}\backslash\text{textngeq}$
 20234 $\backslash\text{let}\backslash\text{lesssim}\backslash\text{textlessim}$
 20235 $\backslash\text{let}\backslash\text{gtrsim}\backslash\text{textgtrsim}$
 20236 $\backslash\text{let}\backslash\text{nlesssim}\backslash\text{textnlessim}$
 20237 $\backslash\text{let}\backslash\text{ngtrsim}\backslash\text{textngtrsim}$
 20238 $\backslash\text{let}\backslash\text{lessgtr}\backslash\text{textlessgtr}$
 20239 $\backslash\text{let}\backslash\text{gtrless}\backslash\text{textgtrless}$
 20240 $\backslash\text{let}\backslash\text{ngtrless}\backslash\text{textngtrless}$
 20241 $\backslash\text{let}\backslash\text{nlessgtr}\backslash\text{textnlessgtr}$
 20242 $\backslash\text{let}\backslash\text{prec}\backslash\text{textprec}$
 20243 $\backslash\text{let}\backslash\text{succ}\backslash\text{textsucc}$
 20244 $\backslash\text{let}\backslash\text{preccurlyeq}\backslash\text{textpreccurlyeq}$
 20245 $\backslash\text{let}\backslash\text{succcurlyeq}\backslash\text{textsucccurlyeq}$
 20246 $\backslash\text{let}\backslash\text{precsim}\backslash\text{textprecsim}$
 20247 $\backslash\text{let}\backslash\text{nprecsim}\backslash\text{textnprecsim}$
 20248 $\backslash\text{let}\backslash\text{succsim}\backslash\text{textsuccsim}$
 20249 $\backslash\text{let}\backslash\text{nsuccsim}\backslash\text{textnsuccsim}$
 20250 $\backslash\text{let}\backslash\text{nprec}\backslash\text{textnprec}$
 20251 $\backslash\text{let}\backslash\text{nsucc}\backslash\text{textnsucc}$
 20252 $\backslash\text{let}\backslash\text{subset}\backslash\text{textsubset}$
 20253 $\backslash\text{let}\backslash\text{supset}\backslash\text{textsupset}$
 20254 $\backslash\text{let}\backslash\text{nssubset}\backslash\text{textnssubset}$
 20255 $\backslash\text{let}\backslash\text{nsupset}\backslash\text{textnsupset}$
 20256 $\backslash\text{let}\backslash\text{subseteq}\backslash\text{textsubseteq}$
 20257 $\backslash\text{let}\backslash\text{supseteq}\backslash\text{textsupseteq}$
 20258 $\backslash\text{let}\backslash\text{nsubseteq}\backslash\text{textnsubseteq}$
 20259 $\backslash\text{let}\backslash\text{nsupseteq}\backslash\text{textnsupseteq}$
 20260 $\backslash\text{let}\backslash\text{subsetneq}\backslash\text{textsubsetneq}$
 20261 $\backslash\text{let}\backslash\text{supsetneq}\backslash\text{textsupsetneq}$
 20262 $\backslash\text{let}\backslash\text{cupdot}\backslash\text{textcupdot}$
 20263 $\backslash\text{let}\backslash\text{cupplus}\backslash\text{textcupplus}$
 20264 $\backslash\text{let}\backslash\text{sqsubset}\backslash\text{textsqssubset}$
 20265 $\backslash\text{let}\backslash\text{nsqsubset}\backslash\text{textnsqsubset}$
 20266 $\backslash\text{let}\backslash\text{sqsupset}\backslash\text{textsqsupset}$
 20267 $\backslash\text{let}\backslash\text{nsqsupset}\backslash\text{textnsqsupset}$

20268 $\backslash\text{let}\backslash\text{sqsubseteq}\backslash\text{textsqsubseteq}$
 20269 $\backslash\text{let}\backslash\text{nsqsubseteq}\backslash\text{textnsqsubseteq}$
 20270 $\backslash\text{let}\backslash\text{sqsupseteq}\backslash\text{textsqsupseteq}$
 20271 $\backslash\text{let}\backslash\text{nsqsupseteq}\backslash\text{textnsqsupseteq}$
 20272 $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqcap}$
 20273 $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqcup}$
 20274 $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$
 20275 $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$
 20276 $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$
 20277 $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$
 20278 $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$
 20279 $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$
 20280 $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$
 20281 $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$
 20282 $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$
 20283 $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$
 20284 $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$
 20285 $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$
 20286 $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$
 20287 $\backslash\text{let}\backslash\text{dashv}\backslash\text{texdashv}$
 20288 $\backslash\text{let}\backslash\text{ndashv}\backslash\text{textndashv}$
 20289 $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$
 20290 $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{textndownvdash}$
 20291 $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$
 20292 $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{textnupvdash}$
 20293 $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$
 20294 $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$
 20295 $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$
 20296 $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$
 20297 $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$
 20298 $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$
 20299 $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$
 20300 $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$
 20301 $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$
 20302 $\backslash\text{let}\backslash\text{lhs}\backslash\text{textrhs}$
 20303 $\backslash\text{let}\backslash\text{rhd}\backslash\text{textrhd}$
 20304 $\backslash\text{let}\backslash\text{unlhd}\backslash\text{textunlhd}$
 20305 $\backslash\text{let}\backslash\text{unrhd}\backslash\text{textunrhd}$
 20306 $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$
 20307 $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$
 20308 $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$
 20309 $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$
 20310 $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$
 20311 $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$
 20312 $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$
 20313 $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$
 20314 $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textrtimes}$
 20315 $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$
 20316 $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$
 20317 $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$
 20318 $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$
 20319 $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{textnbacksimeq}$
 20320 $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$
 20321 $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$

20322 \let\Subset\textSubset
 20323 \let\Subset\textnSubset
 20324 \let\Supset\textSupset
 20325 \let\Supset\textnSupset
 20326 \let\Cap\textCap
 20327 \let\Cup\textCup
 20328 \let\pitchfork\textpitchfork
 20329 \let\lessdot\textlessdot
 20330 \let\gtrdot\textgtrdot
 20331 \let\lll\textlll
 20332 \let\ggg\textggg
 20333 \let\lesseqgtr\textlesseqgtr
 20334 \let\gtreqless\textgtreqless
 20335 \let\curlyeqprec\textcurlyeqprec
 20336 \let\ncurlyeqprec\textncurlyeqprec
 20337 \let\curlyeqsucc\textcurlyeqsucc
 20338 \let\ncurlyeqsucc\textncurlyeqsucc
 20339 \let\preccurlyeq\textpreccurlyeq
 20340 \let\nsucccurlyeq\textnsucccurlyeq
 20341 \let\subsetseq\textsubsetseq
 20342 \let\supsetseq\textsupsetseq
 20343 \let\subsetneq\textsubsetneq
 20344 \let\supsetneq\textsupsetneq
 20345 \let\insim\textinsim
 20346 \let\gnsim\textgnsim
 20347 \let\precnsim\textprecnsim
 20348 \let\succnsim\textsuccnsim
 20349 \let\triangleleft\texttriangleleft
 20350 \let\triangleright\texttriangleright
 20351 \let\trianglelefteq\texttrianglelefteq
 20352 \let\trianglerighteq\texttrianglerighteq
 20353 \let\vdots\textvdots
 20354 \let\cdots\textcdots
 20355 \let\udots\textudots
 20356 \let\ddots\textddots
 20357 \let\barin\textbarin
 20358 \let\diameter\textdiameter
 20359 \let\backneg\textbackneg
 20360 \let\wasylounge\textwasylounge
 20361 \let\invbackneg\textinvbackneg
 20362 \let\clock\textclock
 20363 \let\ulcorner\textulcorner
 20364 \let\urcorner\texturcorner
 20365 \let\llcorner\textllcorner
 20366 \let\lrcorner\textlrcorner
 20367 \let\frown\textfrown
 20368 \let\smile\textsmile
 20369 \let\Keyboard\textKeyboard
 20370 \let\langle\textlangle
 20371 \let\rangle\textrangle
 20372 \let\APLinv\textAPLinv
 20373 \let\Tumbler\textTumbler
 20374 \let\notslash\textnotslash
 20375 \let\notbackslash\textnotbackslash

20376 \let\boxbackslash\textboxbackslash
 20377 \let\APLleftarrowbox\textAPLleftarrowbox
 20378 \let\APLrightarrowbox\textAPLrightarrowbox
 20379 \let\APLuparrowbox\textAPLuparrowbox
 20380 \let\APLdownarrowbox\textAPLdownarrowbox
 20381 \let\APLinput\textAPLinput
 20382 \let\Request\textRequest
 20383 \let\Beam\textBeam
 20384 \let\hexagon\texthexagon
 20385 \let\APLbox\textAPLbox
 20386 \let\ForwardToIndex\textForwardToIndex
 20387 \let\RewindToIndex\textRewindToIndex
 20388 \let\bbslash\textbbslash
 20389 \let\CircledA\textCircledA
 20390 \let\CleaningF\textCleaningF
 20391 \let\CleaningFF\textCleaningFF
 20392 \let\CleaningP\textCleaningP
 20393 \let\CleaningPP\textCleaningPP
 20394 \let\CuttingLine\textCuttingLine
 20395 \let\UParrow\textUParrow
 20396 \let\bigtriangleup\textbigtriangleup
 20397 \let\Forward\textForward
 20398 \let\triangleright\texttriangleright
 20399 \let\RHD\textRHD
 20400 \let\DOWNarrow\textDOWNarrow
 20401 \let\bigtriangledown\textbigtriangledown
 20402 \let\Rewind\textRewind
 20403 \let\triangleleft\texttriangleleft
 20404 \let\LHD\textLHD
 20405 \let\diamond\textdiamond
 20406 \let\lozenge\textlozenge
 20407 \let\LEFTCIRCLE\textLEFTCIRCLE
 20408 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 20409 \let\openbullet\textopenbullet
 20410 \let\boxbar\textboxbar
 20411 \let\bigcircle\textbigcircle
 20412 \let\Cloud\textCloud
 20413 \let\FiveStar\textFiveStar
 20414 \let\FiveStarOpen\textFiveStarOpen
 20415 \let\Phone\textPhone
 20416 \let\boxempty\textboxempty
 20417 \let\Checkedbox\textCheckedbox
 20418 \let\Crossedbox\textCrossedbox
 20419 \let\Coffeecup\textCoffeecup
 20420 \let\HandCuffLeft\textHandCuffLeft
 20421 \let\HandCuffRight\textHandCuffRight
 20422 \let\HandLeft\textHandLeft
 20423 \let\HandRight\textHandRight
 20424 \let\Radioactivity\textRadioactivity
 20425 \let\Biohazard\textBiohazard
 20426 \let\Ankh\textAnkh
 20427 \let\YinYang\textYinYang
 20428 \let\frownie\textfrownie
 20429 \let\smiley\textsmiley

20430 \let\blacksmiley\textblacksmiley
 20431 \let\sun\textsun
 20432 \let\leftmoon\textleftmoon
 20433 \let\rightmoon\textrightmoon
 20434 \let\mercury\textmercury
 20435 \let\earth\textearth
 20436 \let\male\textmale
 20437 \let\jupiter\textjupiter
 20438 \let\saturn\textsaturn
 20439 \let\uranus\texturanus
 20440 \let\neptune\textneptune
 20441 \let\pluto\textpluto
 20442 \let\aries\textaries
 20443 \let\taurus\texttaurus
 20444 \let\gemini\textgemini
 20445 \let\cancer\textcancer
 20446 \let\leo\textleo
 20447 \let\virgo\textvirgo
 20448 \let\libra\textlibra
 20449 \let\scorpio\textscorpio
 20450 \let\sagittarius\textsagittarius
 20451 \let\capricornus\textcapricornus
 20452 \let\aquarius\textaquarius
 20453 \let\pisces\textpisces
 20454 \let\quarternote\textquarternote
 20455 \let\twonotes\texttwonotes
 20456 \let\sixteenthnote\textsixteenthnote
 20457 \let\flat\textflat
 20458 \let\natural\textnatural
 20459 \let\sharp\textsharp
 20460 \let\recycle\textrecycle
 20461 \let\Wheelchair\textWheelchair
 20462 \let\Flag\textFlag
 20463 \let\MineSign\textMineSign
 20464 \let\ds\textds
 20465 \let\ds\textds
 20466 \let\ds\textds
 20467 \let\ds\textds
 20468 \let\ds\textds
 20469 \let\ds\textds
 20470 \let\manstar\textmanstar
 20471 \let\danger\textdanger
 20472 \let\FemaleFemale\textFemaleFemale
 20473 \let\MaleMale\textMaleMale
 20474 \let\FemaleMale\textFemaleMale
 20475 \let\Hermaphrodite\textHermaphrodite
 20476 \let\Neutral\textNeutral
 20477 \let\hexstar\texthexstar
 20478 \let\SunCloud\textSunCloud
 20479 \let\Rain\textRain
 20480 \let\noway\textnoway
 20481 \let\Mountain\textMountain
 20482 \let\Tent\textTent
 20483 \let\ScissorRight\textScissorRight

20484 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 20485 \let\ScissorHollowRight\textScissorHollowRight
 20486 \let\PhoneHandset\textPhoneHandset
 20487 \let\Tape\textTape
 20488 \let\Plane\textPlane
 20489 \let\Envelope\textEnvelope
 20490 \let\Peace\textPeace
 20491 \let\WritingHand\textWritingHand
 20492 \let\PencilRightDown\textPencilRightDown
 20493 \let\PencilRight\textPencilRight
 20494 \let\PencilRightUp\textPencilRightUp
 20495 \let\NibRight\textNibRight
 20496 \let\NibSolidRight\textNibSolidRight
 20497 \let\Checkmark\textCheckmark
 20498 \let\CheckmarkBold\textCheckmarkBold
 20499 \let\XSolid\textXSolid
 20500 \let\XSolidBold\textXSolidBold
 20501 \let\XSolidBrush\textXSolidBrush
 20502 \let\PlusOutline\textPlusOutline
 20503 \let\Plus\textPlus
 20504 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 20505 \let\PlusCenterOpen\textPlusCenterOpen
 20506 \let\Cross\textCross
 20507 \let\CrossOpenShadow\textCrossOpenShadow
 20508 \let\CrossOutline\textCrossOutline
 20509 \let\CrossMaltese\textCrossMaltese
 20510 \let\DavidStar\textDavidStar
 20511 \let\FourAsterisk\textFourAsterisk
 20512 \let\JackStar\textJackStar
 20513 \let\JackStarBold\textJackStarBold
 20514 \let\ClowerTips\textClowerTips
 20515 \let\FourStar\textFourStar
 20516 \let\FourStarOpen\textFourStarOpen
 20517 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 20518 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 20519 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 20520 \let\FiveStarOutline\textFiveStarOutline
 20521 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 20522 \let\FiveStarConvex\textFiveStarConvex
 20523 \let\FiveStarShadow\textFiveStarShadow
 20524 \let\AsteriskBold\textAsteriskBold
 20525 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 20526 \let\EightStarTaper\textEightStarTaper
 20527 \let\EightStarConvex\textEightStarConvex
 20528 \let\SixStar\textSixStar
 20529 \let\EightStar\textEightStar
 20530 \let\EightStarBold\textEightStarBold
 20531 \let\TwelveStar\textTwelveStar
 20532 \let\SixteenStarLight\textSixteenStarLight
 20533 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 20534 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 20535 \let\Asterisk\textAsterisk
 20536 \let\SixFlowerAlternate\textSixFlowerAlternate
 20537 \let\FiveFlowerPetal\textFiveFlowerPetal

20538 \let\FiveFlowerOpen\textFiveFlowerOpen
 20539 \let\EightFlowerPetal\textEightFlowerPetal
 20540 \let\SunshineOpenCircled\textSunshineOpenCircled
 20541 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 20542 \let\SnowflakeChevron\textSnowflakeChevron
 20543 \let\Snowflake\textSnowflake
 20544 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 20545 \let\Sparkle\textSparkle
 20546 \let\SparkleBold\textSparkleBold
 20547 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 20548 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 20549 \let\EightAsterisk\textEightAsterisk
 20550 \let\CircleShadow\textCircleShadow
 20551 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 20552 \let\SquareTopRight\textSquareTopRight
 20553 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 20554 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 20555 \let\DiamondSolid\textDiamondSolid
 20556 \let\RectangleThin\textRectangleThin
 20557 \let\Rectangle\textRectangle
 20558 \let\RectangleBold\textRectangleBold
 20559 \let\perp\textperp
 20560 \let\notperp\textnotperp
 20561 \let\veedot\textveedot
 20562 \let\wedgedot\textwedgedot
 20563 \let\leftspoon\textleftspoon
 20564 \let\lbrackdbl\textlbrackdbl
 20565 \let\rbrackdbl\textrbrackdbl
 20566 \let\circlearrowleft\textcirclearrowleft
 20567 \let\circlearrowright\textcirclearrowright
 20568 \let\longleftarrow\textlongleftarrow
 20569 \let\longrightarrow\textlongrightarrow
 20570 \let\longlefttrightarrow\textlonglefttrightarrow
 20571 \let\Longleftarrow\textLongleftarrow
 20572 \let\Longrightarrow\textLongrightarrow
 20573 \let\Longlefttrightarrow\textLonglefttrightarrow
 20574 \let\longmapsto\textlongmapsto
 20575 \let\Longmapsfrom\textLongmapsfrom
 20576 \let\Longmapsto\textLongmapsto
 20577 \let\nwsearrow\textnwsearrow
 20578 \let\neswarrow\textneswarrow
 20579 \let\hookrightarrow\texthookrightarrow
 20580 \let\rhookrightarrow\texthookrightarrow
 20581 \let\hookrightarrow\texthookrightarrow
 20582 \let\rhookrightarrow\texthookrightarrow
 20583 \let\leadsto\textleadsto
 20584 \let\curvearrowright\textcurvearrowright
 20585 \let\curvearrowleft\textcurvearrowleft
 20586 \let\curvearrowright\textcurvearrowright
 20587 \let\curvearrowright\textcurvearrowright
 20588 \let\curvearrowdown\textcurvearrowdown
 20589 \let\curvearrowdown\textcurvearrowdown
 20590 \let\curvearrowleft\textcurvearrowleft
 20591 \let\curvearrowright\textcurvearrowright

20592 \let\leftrightharpoon\textleftrightharpoon
 20593 \let\rightleftharpoon\textrightleftharpoon
 20594 \let\updownharpoonrightleft\textupdownharpoonrightleft
 20595 \let\updownharpoonleftright\textupdownharpoonleftright
 20596 \let\leftleftharpoons\textleftleftharpoons
 20597 \let\upupharpoons\textupupharpoons
 20598 \let\righttrightharpoons\textrighttrightharpoons
 20599 \let\downdownharpoons\textdowndownharpoons
 20600 \let\leftbarharpoon\textleftbarharpoon
 20601 \let\barleftharpoon\textbarleftharpoon
 20602 \let\rightbarharpoon\textrightbarharpoon
 20603 \let\barriightharpoon\textbarriightharpoon
 20604 \let\updownharpoons\textupdownharpoons
 20605 \let\downupharpoons\textdownupharpoons
 20606 \let\moo\textmoo
 20607 \let\llparenthesis\textllparenthesis
 20608 \let\rrparenthesis\textrrparenthesis
 20609 \let\invdiameter\textinvdiameter
 20610 \let\obar\textobar
 20611 \let\obslash\textobslash
 20612 \let\obot\textobot
 20613 \let\NoChemicalCleaning\textNoChemicalCleaning
 20614 \let\olessthan\textolessthan
 20615 \let\ogreaterthan\textogreaterthan
 20616 \let\boxslash\textboxslash
 20617 \let\boxbslash\textboxbslash
 20618 \let\boxast\textboxast
 20619 \let\boxcircle\textboxcircle
 20620 \let\boxbox\textboxbox
 20621 \let\Valve\textValve
 20622 \let\multimapboth\textmultimapboth
 20623 \let\shuffle\textshuffle
 20624 \let\uplus\textuplus
 20625 \let\bigdoublewedge\textbigdoublewedge
 20626 \let\bigdoublevee\textbigdoublevee
 20627 \let\Join\textJoin
 20628 \let\fatsemi\textfatsemi
 20629 \let\cirplus\textcirplus
 20630 \let\minusdot\textminusdot
 20631 \let\dottimes\textdottimes
 20632 \let\dtimes\textdtimes
 20633 \let\odiv\textodiv
 20634 \let\invneg\textinvneg
 20635 \let\sqdoublecap\textsqdoublecap
 20636 \let\capdot\textcapdot
 20637 \let\sqdoublecup\textsqdoublecup
 20638 \let\doublewedge\textdoublewedge
 20639 \let\doublevee\textdoublevee
 20640 \let\doublebarwedge\textdoublebarwedge
 20641 \let\veedoublebar\textveedoublebar
 20642 \let\eqdot\texteqdot
 20643 \let\neqdot\textneqdot
 20644 \let\coloncolonequals\textcoloncolonequals
 20645 \let\leqslant\textleqslant

20646 `\let\nleqslant\textnleqslant`
 20647 `\let\geqslant\textgeqslant`
 20648 `\let\ngeqslant\textngeqslant`
 20649 `\let\lessapprox\textlessapprox`
 20650 `\let\nlessapprox\textnlessapprox`
 20651 `\let\gtrapprox\textgtrapprox`
 20652 `\let\ngtrapprox\textngtrapprox`
 20653 `\let\lneq\textlneq`
 20654 `\let\gneq\textgneq`
 20655 `\let\lnapprox\textlnapprox`
 20656 `\let\gnapprox\textgnapprox`
 20657 `\let\lesseqqgtr\textlesseqqgtr`
 20658 `\let\gtreqqless\textgtreqqless`
 20659 `\let\eqslantless\texteqslantless`
 20660 `\let\eqslantgtr\texteqslantgtr`
 20661 `\let\leftslice\textleftslice`
 20662 `\let\rightslice\textright slice`
 20663 `\let\preceq\textpreceq`
 20664 `\let\npreceq\textnpreceq`
 20665 `\let\succeq\textsucceq`
 20666 `\let\nsucceq\textnsucceq`
 20667 `\let\precneq\textprecneq`
 20668 `\let\succneq\textsuccneq`
 20669 `\let\preceqq\textpreceqq`
 20670 `\let\npreceqq\textnpreceqq`
 20671 `\let\succeqq\textsucceqq`
 20672 `\let\nsucceqq\textnsucceqq`
 20673 `\let\precneqq\textprecneqq`
 20674 `\let\succneqq\textsuccneqq`
 20675 `\let\precapprox\textprecapprox`
 20676 `\let\nprecapprox\textnprecapprox`
 20677 `\let\succapprox\textsuccapprox`
 20678 `\let\nsuccapprox\textnsuccapprox`
 20679 `\let\precnapprox\textprecnapprox`
 20680 `\let\succnapprox\textsuccnapprox`
 20681 `\let\subseteqq\textsubseteqq`
 20682 `\let\nsubseteqq\textnsubseteqq`
 20683 `\let\supseteqq\textsupseteqq`
 20684 `\let\nsupseteqq\textnsupseteqq`
 20685 `\let\dashV\textdashV`
 20686 `\let\ndashV\textndashV`
 20687 `\let\Dashv\textDashv`
 20688 `\let\NDashv\textNDashv`
 20689 `\let\DashV\textDashV`
 20690 `\let\NDashV\textNDashV`
 20691 `\let\downmodels\textdownmodels`
 20692 `\let\ndownmodels\textndownmodels`
 20693 `\let\upmodels\textupmodels`
 20694 `\let\nupmodels\textnupmodels`
 20695 `\let\upspoon\textupspoon`
 20696 `\let\interleave\textinterleave`
 20697 `\let\sslash\textsslash`
 20698 `\let\pentagon\textpentagon`
 20699 `\let\varhexagon\textvarhexagon`

20700 \let\jinferior\textjinferior
 20701 \let\slashdiv\textslashdiv
 20702 \let\fivedots\textfivedots
 20703 \let\oo\textoo
 20704 \let\GaPa\textGaPa
 20705 \let\HaPa\textHaPa
 20706 \let\ViPa\textViPa
 20707 \let\AcPa\textAcPa
 20708 \let\SePa\textSePa
 20709 \let\ZwPa\textZwPa
 20710 \let\fullnote\textfullnote
 20711 \let\halfnote\texthalfnote
 20712 \let\Vier\textVier
 20713 \let\Acht\textAcht
 20714 \let\Sech\textSech
 20715 \let\Zwdr\textZwdr
 20716 \let\Mundus\textMundus
 20717 \let\Moon\textMoon
 20718 \let\ManFace\textManFace
 20719 \let\WomanFace\textWomanFace
 20720 \let\Fax\textFax
 20721 \let\Fire\textFire
 20722 \let\Bicycle\textBicycle
 20723 \let\Gentsroom\textGentsroom
 20724 \let\Ladiesroom\textLadiesroom
 20725 \let\ccnc\textccnc
 20726 \let\ccsa\textccsa
 20727 \let\Info\textInfo
 20728 \let\CESign\textCESign
 20729 \let\neg\textneg
 20730 \let\times\texttimes
 20731 \let\div\textdiv
 20732 \let\pm\textpm
 20733 \let\cdot\textcdot
 20734 }% \psdmapshortnames
 20735 \newcommand*{\psdaliasnames}{%
 20736 \let\epsdice\HyPsd@DieFace
 20737 \let\fcdice\HyPsd@DieFace
 20738 \let\MoonPha\HyPsd@MoonPha
 20739 \let\mathdollar\textdollar
 20740 \let\EyesDollar\textdollar
 20741 \let\binampersand\textampersand
 20742 \let\with\textampersand
 20743 \let\mathunderscore\textunderscore
 20744 \let\textvertline\textbar
 20745 \let\mathsterling\textsterling
 20746 \let\pounds\textsterling
 20747 \let\brokenvert\textbrokenbar
 20748 \let\mathsection\textsection
 20749 \let\S\textsection
 20750 \let\mathparagraph\textparagraph
 20751 \let\MultiplicationDot\textperiodcentered
 20752 \let\Squaredot\textperiodcentered
 20753 \let\vartimes\textmultiply

20754 \let\MVMultiplication\textmultiply
 20755 \let\eth\dh
 20756 \let\crossd\textcrd
 20757 \let\textbard\textcrd
 20758 \let\bard\textcrd
 20759 \let\textcrh\texthbar
 20760 \let\crossh\texthbar
 20761 \let\planck\texthbar
 20762 \let\eng\ng
 20763 \let\engma\ng
 20764 \let\crossb\textcrb
 20765 \let\textbarb\textcrb
 20766 \let\barb\textcrb
 20767 \let\Florin\textflorin
 20768 \let\hv\texthvl
 20769 \let\hausak\texthtk
 20770 \let\crossnilambda\textcrlambda
 20771 \let\barlambda\textcrlambda
 20772 \let\lambdabar\textcrlambda
 20773 \let\lambdash\textcrlambda
 20774 \let\textnrleg\textPUnrleg
 20775 \let\textpipevar\textpipe
 20776 \let\textdoublepipevar\textdoublepipe
 20777 \let\textdoublebarpipevar\textdoublebarpipe
 20778 \let\textcrg\textgslash
 20779 \let\textdblig\textPUdblig
 20780 \let\textqplig\textPUqplig
 20781 \let\textcentoldstyle\textslashc
 20782 \let\textbarc\textslashc
 20783 \let\inva\textturna
 20784 \let\vara\textscripta
 20785 \let\invscripta\textturnscripta
 20786 \let\rotvara\textturnscripta
 20787 \let\hookb\texthtb
 20788 \let\hausab\texthtb
 20789 \let\varopeno\textopeno
 20790 \let\curlyc\textctc
 20791 \let\taild\textrtaild
 20792 \let\hookd\texthtd
 20793 \let\hausad\texthtd
 20794 \let\er\textrhookswa
 20795 \let\epsi\textniepsilon
 20796 \let\hookrepsilon\texthookrepsilon
 20797 \let\closedrepsilon\textcloserepsilon
 20798 \let\barj\textbardotlessj
 20799 \let\hookg\texthtg
 20800 \let\varg\textscriptg
 20801 \let\vod\texttipagamma
 20802 \let\invh\textturnh
 20803 \let\udesc\textturnh
 20804 \let\hookh\texthth
 20805 \let\voicedh\texthth
 20806 \let\hookheng\texththeng
 20807 \let\ibar\textbari

20808 \let\vari\textnniota
 20809 \let\tildel\textltilde
 20810 \let\latfric\textbeltl
 20811 \let\tail\texttrtail
 20812 \let\lz\textlyoghlig
 20813 \let\invm\textturnm
 20814 \let\rotr\textturnm
 20815 \let\legm\textturnmrleg
 20816 \let\labdentainas\textltailm
 20817 \let\emgma\textltailm
 20818 \let\nj\textltailn
 20819 \let\enya\textltailn
 20820 \let\tailn\texttrtailn
 20821 \let\closedniomega\textcloseomega
 20822 \let\varomega\textcloseomega
 20823 \let\invr\textturnr
 20824 \let\rotr\textturnr
 20825 \let\invlegr\textturnlonglegr
 20826 \let\tailinvr\textturnrrtail
 20827 \let\legr\textlonglegr
 20828 \let\tailr\texttrtailr
 20829 \let\flapr\textfishhookr
 20830 \let\flap\textfishhookr
 20831 \let\tails\texttrtails
 20832 \let\curlyesh\textctesh
 20833 \let\clickt\textturnt
 20834 \let\tailt\texttrtailt
 20835 \let\ubar\textbaru
 20836 \let\rotOmega\textniupsilon
 20837 \let\invv\textturnv
 20838 \let\pwedge\textturnv
 20839 \let\invw\textturnw
 20840 \let\rotw\textturnw
 20841 \let\invy\textturny
 20842 \let\roty\textturny
 20843 \let\tailz\texttrtailz
 20844 \let\curlyz\textctz
 20845 \let\curlyyogh\textctyogh
 20846 \let\ejective\textglotstop
 20847 \let\glottal\textglotstop
 20848 \let\reveject\textrevglotstop
 20849 \let\clickc\textstretchc
 20850 \let\textstretchcvar\textstretchc
 20851 \let\clickb\textbullseye
 20852 \let\textObullseye\textbullseye
 20853 \let\textctjvar\textctj
 20854 \let\textturnsck\textturnk
 20855 \let\dz\textdzlig
 20856 \let\tesh\textteshlig
 20857 \let\digamma\textdigammagreek
 20858 \let\hardsign\cyrrhdsn
 20859 \let\softsign\cyrsftsn
 20860 \let\hebsin\hebshin
 20861 \let\textsck\textPUscck

20862 \let\textscm\textPUscm
 20863 \let\textscp\textPUscp
 20864 \let\textrevscr\textPUrevscr
 20865 \let\textrhoaka\textPURhooka
 20866 \let\textrhooke\textPURhooke
 20867 \let\textrhookepsilon\textPURhookepsilon
 20868 \let\textrhookeno\textPURhookopeno
 20869 \let\textdoublevertline\textbardbl
 20870 \let\dag\textdagger
 20871 \let\ddagger\textdaggerdbl
 20872 \let\ddag\textdaggerdbl
 20873 \let\mathellipsis\textellipsis
 20874 \let\EurDig\texteuro
 20875 \let\EURdig\texteuro
 20876 \let\EurHv\texteuro
 20877 \let\EURhv\texteuro
 20878 \let\EurCr\texteuro
 20879 \let\EURcr\texteuro
 20880 \let\EurTm\texteuro
 20881 \let\EURtm\texteuro
 20882 \let\Eur\texteuro
 20883 \let\Denarius\textDeleatur
 20884 \let\agemO\textmho
 20885 \let\EstimatedSign\textestimated
 20886 \let\Ecommerce\textestimated
 20887 \let\bindnasrepma\textinvamp
 20888 \let\parr\textinvamp
 20889 \let\MVRightArrow\textrightarrow
 20890 \let\MVRightarrow\textrightarrow
 20891 \let\MVArrowDown\textdownarrow
 20892 \let\Force\textdownarrow
 20893 \let\textglobrise\textnearrow
 20894 \let\textglobfall\textsearrow
 20895 \let\Lightning\textlightning
 20896 \let\Conclusion\textrightarrow
 20897 \let\dashedleftarrow\textdashleftarrow
 20898 \let\dashedrightarrow\textdashrightarrow
 20899 \let\varnothing\textemptyset
 20900 \let\owns\textni
 20901 \let\notni\textnotowner
 20902 \let\varprop\textpropto
 20903 \let\varangle\textsphericalangle
 20904 \let\Anglesign\textsphericalangle
 20905 \let\AngleSign\textsphericalangle
 20906 \let\notdivides\textnmid
 20907 \let\varowedge\textowedge
 20908 \let\varovee\textovee
 20909 \let\varint\textint
 20910 \let\varoint\textoint
 20911 \let\downtherefore\textbecause
 20912 \let\textdotdiv\textdotminus
 20913 \let\AC\textsim
 20914 \let\wreath\textwr
 20915 \let\nthickapprox\textnapprox

20916 `\let\VHF\texttriplesim`
 20917 `\let\notasymp\textnasymp`
 20918 `\let\Doteq\textdoteqdot`
 20919 `\let\corresponds\texthateq`
 20920 `\let\Corresponds\texthateq`
 20921 `\let\nequal\textneq`
 20922 `\let\Congruent\textequiv`
 20923 `\let\NotCongruent\textnequiv`
 20924 `\let\notequiv\textnequiv`
 20925 `\let\LessOrEqual\textleq`
 20926 `\let\LargerOrEqual\textgeq`
 20927 `\let\apprle\textless`
 20928 `\let\apprge\textgtr`
 20929 `\let\varoplus\textoplus`
 20930 `\let\varominus\textominus`
 20931 `\let\varotimes\textotimes`
 20932 `\let\varoslash\textoslash`
 20933 `\let\varodot\textodot`
 20934 `\let\ocirc\textcircledcirc`
 20935 `\let\varocircle\textcircledcirc`
 20936 `\let\varoast\textcircledast`
 20937 `\let\oasterisk\textcircledast`
 20938 `\let\rightvdash\textvdash`
 20939 `\let\leftvdash\textdashv`
 20940 `\let\nleftvdash\textndashv`
 20941 `\let\downvdash\texttop`
 20942 `\let\upvdash\textbot`
 20943 `\let\nperp\textnupvdash`
 20944 `\let\models\textvDash`
 20945 `\let\rightmodels\textvDash`
 20946 `\let\rightVdash\textVdash`
 20947 `\let\rightModels\textVDash`
 20948 `\let\nrightvdash\textnvdash`
 20949 `\let\nrightmodels\textnvDash`
 20950 `\let\nmodels\textnvDash`
 20951 `\let\nrightVdash\textnVdash`
 20952 `\let\nrightModels\textnVDash`
 20953 `\let\lessclosed\textlhd`
 20954 `\let\gtrclosed\textrhd`
 20955 `\let\leqclosed\textunlhd`
 20956 `\let\trianglelefteq\textunlhd`
 20957 `\let\geqclosed\textunrhd`
 20958 `\let\trianglerighteq\textunrhd`
 20959 `\let\Bowtie\textbowtie`
 20960 `\let\varcurlyvee\textcurlyvee`
 20961 `\let\varcurlywedge\textcurlywedge`
 20962 `\let\doublecap\textCap`
 20963 `\let\doublecup\textCup`
 20964 `\let\varsubsetneq\textsubsetneq`
 20965 `\let\varsupsetneq\textsupsetneq`
 20966 `\let\nlessclosed\textntriangleleft`
 20967 `\let\ngtrclosed\textntriangleright`
 20968 `\let\Clocklogo\textclock`
 20969 `\let\ClockLogo\textclock`

20970 \let\baro\textstmaryrdbaro
 20971 \let\varparallelinv\textbbslash
 20972 \let\CleaningA\textCircledA
 20973 \let\Kutline\textCuttingLine
 20974 \let\CutLine\textCuttingLine
 20975 \let\Cutline\textCuttingLine
 20976 \let\MoveUp\textUParrow
 20977 \let\APLup\textbigtriangleup
 20978 \let\Bleech\textbigtriangleup
 20979 \let\MoveDown\textDOWNarrow
 20980 \let\APLdown\textbigtriangledown
 20981 \let\Diamond\textdiamond
 20982 \let\varbigcirc\textbigcircle
 20983 \let\Telefon\textPhone
 20984 \let\Box\textboxempty
 20985 \let\CheckedBox\textCheckedbox
 20986 \let\XBox\textCrossedbox
 20987 \let\CrossedBox\textCrossedbox
 20988 \let\rightpointleft\textHandLeft
 20989 \let\leftpointright\textHandRight
 20990 \let\PointingHand\textHandRight
 20991 \let\Pointinghand\textHandRight
 20992 \let\Radiation\textRadioactivity
 20993 \let\Yinyang\textYinYang
 20994 \let\YingYang\textYinYang
 20995 \let\Yingyang\textYinYang
 20996 \let\Frowny\textfrownie
 20997 \let\Smiley\textsmiley
 20998 \let\Sun\textsun
 20999 \let\Mercury\textmercury
 21000 \let\textfemale\textPUfemale
 21001 \let\female\textPUfemale
 21002 \let\venus\textPUfemale
 21003 \let\Venus\textPUfemale
 21004 \let\Female\textPUfemale
 21005 \let\Earth\textearth
 21006 \let\mars\textmale
 21007 \let\Mars\textmale
 21008 \let\Male\textmale
 21009 \let\Jupiter\textjupiter
 21010 \let\Saturn\textsaturn
 21011 \let\Uranus\texturanus
 21012 \let\Neptune\textneptune
 21013 \let\Pluto\textpluto
 21014 \let\Aries\textaries
 21015 \let\Taurus\texttaurus
 21016 \let\Gemini\textgemini
 21017 \let\Cancer\textcancer
 21018 \let\Leo\textleo
 21019 \let\Virgo\textvirgo
 21020 \let\Libra\textlibra
 21021 \let\Scorpio\textscorpio
 21022 \let\Sagittarius\textsagittarius
 21023 \let\Capricorn\textcapricornus

21024 \let\Aquarius\textaquarius
 21025 \let\Pisces\textpisces
 21026 \let\spadesuit\textspadesuitblack
 21027 \let\Heart\textheartsuitwhite
 21028 \let\heartsuit\textheartsuitwhite
 21029 \let\diamondsuit\textdiamondsuitwhite
 21030 \let\clubsuit\textclubsuitblack
 21031 \let\eighthnote\textmusicalnote
 21032 \let\Recycling\textrecycle
 21033 \let\VarFlag\textFlag
 21034 \let\textxswup\textdsmilitary
 21035 \let\textuncrfemale\textPUuncrfemale
 21036 \let\Football\textSoccerBall
 21037 \let\CutLeft\textScissorRightBrokenBottom
 21038 \let\Cutright\textScissorRightBrokenBottom
 21039 \let\RightScissors\textScissorRight
 21040 \let\Leftscissors\textScissorRight
 21041 \let\Letter\textEnvelope
 21042 \let\Writinghand\textWritingHand
 21043 \let\checkmark\textCheckmark
 21044 \let\DavidStar\textDavidStar
 21045 \let\llbracket\textlbrackdbl
 21046 \let\rrbracket\textrrbrackdbl
 21047 \let\RightTorque\textlcurvearrowdown
 21048 \let\Righttorque\textlcurvearrowdown
 21049 \let\LeftTorque\textrcurvearrowdown
 21050 \let\Lefttorque\textrcurvearrowdown
 21051 \let\textvarobar\textobar
 21052 \let\circledbslash\textobslash
 21053 \let\obackslash\textobslash
 21054 \let\varobslash\textobslash
 21055 \let\odplus\textobot
 21056 \let\varolessthan\textolessthan
 21057 \let\varogreaterthan\textogreaterthan
 21058 \let\divdot\textminusdot
 21059 \let\doublesqcap\textsqdoublecap
 21060 \let\doublesqcup\textsqdoublecup
 21061 \let\merge\textdoublevee
 21062 \let\leftVdash\textdashV
 21063 \let\nleftVdash\textndashV
 21064 \let\leftmodels\textDashv
 21065 \let\nleftmodels\textnDashv
 21066 \let\leftModels\textDashV
 21067 \let\nleftModels\textnDashV
 21068 \let\varparallel\textsslash
 21069 \let\textheng\textPUheng
 21070 \let\textlhookfour\textPUlhookfour
 21071 \let\textscf\textPUscf
 21072 \let\textaoig\textPUaoig
 21073 \let\Ganz\textfullnote
 21074 \let\Halb\texthalfnote
 21075 \let\Womanface\textWomanFace
 21076 \let\Faxmachine\textFax
 21077 \let\CEsign\textCESign

```
21078 }% \psdaliasnames
21079 </psdextra>
```

47 End of file hycheck.tex

```
21080 <*check>
21081 \typeout{}
21082 \begin{document}
21083 \end{document}
21084 </check>
```

48 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols			
<code>\!</code>	195, 220, 1745	15347, 15355, 15367, 15383, 15389, 15398, 15414, 15423, 15424, 15439, 15453, 15459, 15479, 15481, 15595, 15597, 15615, 15617, 15651, 15653, 15663, 15665, 15725, 15727, 15848, 15850, 15856, 15858, 15861, 15864, 16341, 16343, 16345, 16347, 16349, 16351, 16353, 16356, 16412, 16414, 16416, 16418, 16477, 16480, 16482, 16526, 16546, 16696, 16716, 17258, 17260, 17282, 17284, 17322, 17324, 17390, 17392, 19632, 19637, 19642, 19647, 19652, 19657, 19662, 19667, 19672, 19677, 19682, 19687, 19692, 19697, 19702, 19707, 19712, 19717, 19722, 19727, 19732, 19737, 19742, 19747	14657, 14669, 15047, 15111, 15140, 15167, 15467, 15469, 15509, 15511, 15561, 15563, 15564, 15635, 15637, 15695, 15697, 15944, 15946, 16984, 16986, 17010, 17012, 17230, 17232
<code>\"</code>	202, 227, 3066, 14325, 14640, 14652, 14664, 14790, 14878, 14892, 14900, 14915, 14927, 14944, 14958, 14969, 14970, 14984, 14996, 15003, 15056, 15102, 15131, 15162, 15337, 15351, 15359, 15373, 15387, 15404, 15418, 15429, 15430, 15445, 15457, 15465, 15723, 16408, 16410, 16421, 16473, 16475, 16522, 16536, 16692, 16706, 16950, 16952, 16967, 16970, 16972, 16974, 16976, 16978, 16988, 16990, 16992, 16994, 17001, 17004, 17006, 17008, 17014, 17016, 17022, 17024, 17030, 17032, 17242, 17244, 17394, 17396, 17410, 17412, 17432	<code>\></code> 197, 222 <code>\?</code> 320 <code>\@</code> 3057 <code>\@@@</code> 2189 <code>\@@BOOKMARK</code> 14306, 14309, 14367, 14432, 14439 <code>\@@ListBox</code> 12608, 12639, 13210, 13244, 13566, 13607 <code>\@@Menu</code> 12849, 12857 <code>\@@PasswordField</code> 12798, 12804 <code>\@@Radio</code> 12593, 12614, 12847, 12871, 13195, 13216, 13551, 13572 <code>\@@TextField</code> . . . 12800, 12815 <code>\@@commahyperpage</code> 8337, 8338 <code>\@@hyper@creadexternallink</code> 5168, 5170 <code>\@@hyperref</code> 4977, 4978 <code>\@@windex</code> 8238, 8239 <code>\@@writetorep</code> . . . 14167, 14173 <code>\@Alph</code> 7058, 7060 <code>\@BIBLABEL</code> . . . 7713, 7719, 7725 <code>\@BOOKMARK</code> . . . 14306, 14308 <code>\@CheckBox</code> 6157, 10336, 12728, 12764, 12902, 13332, 13709 <code>\@ChoiceMenu</code> 6154, 10339, 12546, 12767, 12837, 13147, 13503 <code>\@Form</code> 5830, 10326, 12298, 12754, 12781, 13036, 13417 <code>\@Gauge</code> . . . 6163, 10330, 12483, 12758, 12786, 12923, 13414 <code>\@Localurlfalse</code> 10279 <code>\@Localurltrue</code> 10276 <code>\@M</code> 2242, 4860 <code>\@MM</code> 7472 <code>\@PackageError</code> 246 <code>\@PackageInfo</code> 249 <code>\@PackageInfoNoLine</code> 250 <code>\@PackageWarning</code> 247 <code>\@PackageWarningNoLine</code> 248	
<code>\#</code>	516, 1830, 1831, 4753, 4764, 4766, 4782, 4814, 4874, 8642, 8644, 9386, 9395, 9430, 10271, 11919, 11930, 11966, 12204, 12213, 12253, 14245	<code>\(</code> 190, 215, 315, 735, 738, 740, 1747, 14391, 14710 <code>\)</code> 191, 216, 316, 707, 713, 716, 1748, 14392, 14712 <code>*</code> 318 <code>\+</code> 200, 225, 319 <code>\-</code> 201, 226 <code>\.</code> 198, 223, 312, 3517, 3930, 14643, 14655, 14667, 14731, 15027, 15034, 15054, 15105, 15134, 15168, 15245, 15246, 15487, 15489, 15517, 15519, 15537, 15539, 15576, 15607, 15609, 15729, 15731, 15932, 15934, 15940, 15942, 17174, 17176, 17186, 17188, 17226, 17228, 17234, 17236, 17286, 17288, 17294, 17296, 17326, 17328, 17330, 17332, 17342, 17344, 17350, 17352, 17398, 17400, 17406, 17408, 17414, 17416, 17438 <code>\/</code> 194, 219, 648, 649, 650, 718, 1514, 8203 <code>\:</code> 189, 214 <code>\;</code> 199, 224 <code>\<</code> 196, 221 <code>\=</code> 167, 173, 180, 183, 14645,	
<code>\\$</code>	184, 209, 314, 517, 4755, 4873		
<code>\%</code>	518, 1745, 1805, 1806, 4752, 4761, 4763, 4815, 8644		
<code>\&</code>	185, 210, 519, 4756, 4767, 4769, 11976		
<code>\'</code>	203, 228, 3006, 3020, 3061, 3063, 3064, 3065, 3066, 3071, 3072, 3074, 3079, 3085, 3089, 3090, 3093, 3136, 3137, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3151, 3154, 3161, 3162, 3163, 3164, 3167, 3173, 3186, 14323, 14637, 14649, 14661, 14872, 14888, 14896, 14909, 14923, 14929, 14938, 14954, 14963, 14964, 14978, 14992, 14998, 15022, 15024, 15025, 15026, 15029, 15031, 15032, 15033, 15041, 15099, 15128, 15159, 15331,		

\@PushButton	6160, 10342, 12650, 12770, 12883, 13254, 13623	\@ctrerr	7026, 7035	\@extra@binfo	7697, 7700, 7704
\@Refstar	4726, 8446	\@currDisplay	5918, 12558, 12621, 12866, 12880, 13159, 13223, 13515, 13582	\@fifthoffive	5012, 8398, 8531
\@Reset	6169, 10345, 12701, 12773, 12899, 13307, 13680	\@currValue	5920, 5922, 5924, 12619, 12630, 12866, 12877, 13221, 13231, 13580, 13597	\@filebordercolor	3552, 4141, 9022, 9024, 9962, 9964, 10484, 10486, 11550
\@Submit	6166, 10348, 12681, 12776, 12896, 13284, 13657	\@currentHlabel	7105	\@filecolor	3486, 3498, 9043, 9569, 9586, 9980, 10490
\@TextField	6151, 10333, 12514, 12761, 12789, 13117, 13466	\@currentHref	2191, 5070, 5361, 6274, 6942, 7084, 7086, 7096, 7098, 7105, 7113, 7115, 7125, 7168, 7179, 7181, 7218, 7239, 7243, 7248, 7271, 7311, 7313, 7315, 7388, 7398, 7400, 7401, 7457, 7486, 7586, 7612, 7616, 7643, 7645, 7802, 7988, 8011, 8024, 8031, 8113, 14157, 14543, 14556, 14567, 14594, 14611	\@firstoffive	4716, 8438, 8536
\@addtoreset	8136, 8137, 8152	\@currentcounter	7475	\@firstofone	549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 602, 635, 1250, 4605, 4998, 5796, 5802, 6052, 6862, 7051, 7063, 7579, 7661, 7947, 8193, 9248, 12990, 13796, 13813, 13831
\@alph	7054, 7056	\@currentlabel	7476, 7795, 7802, 8118, 8125	\@firstoftwo	618, 894, 6363, 14601
\@anchorcolor	3496, 9355, 9450, 10398, 11887, 12174	\@currentlabelname	2181, 7389, 7458, 7487, 7591	\@fnssymbol	7052
\@arabic	6961, 6977, 7053	\@currentlabstr	2180, 2188	\@footnotemark	7331, 7394, 7412, 7495, 7507, 7509, 7521, 7522, 7553, 7555
\@auxout	2183, 5025, 5332, 6394, 7733, 7748, 7764, 7774, 7793, 7799, 7823	\@currname	2312	\@footnotetext	7330, 7337, 7371, 7411, 7508, 7510, 7524, 7525, 7546
\@backslashchar	1048, 1707, 1711, 1714, 1852, 1869, 1875, 1879, 1887, 4777, 8657, 8667	\@currenpt	12555, 12556, 12617, 12618, 12855, 12862, 12863, 12865, 12872, 12873, 12875, 13156, 13157, 13219, 13220, 13512, 13513, 13578, 13579	\@for	3528, 5438, 12555, 12617, 12855, 12862, 12872, 13156, 13219, 13512, 13578
\@baseurl	3503, 3505, 5226, 9094, 9097, 9340, 9342, 9627, 9629, 10148, 10158, 10244, 10246, 10781, 10783, 11165, 11179, 11872, 11874, 12072, 12086, 12160, 12162	\@dblarg	7581, 7663	\@fourthoffive	5013, 8526, 8533
\@bibitem	7740, 7771	\@definecounter	8092, 8093	\@gobble	49, 56, 117, 542, 543, 544, 545, 582, 583, 584, 585, 604, 621, 622, 623, 632, 634, 901, 1187, 1248, 1267, 1280, 1284, 1347, 1410, 1411, 1418, 1423, 1437, 1442, 2039, 2214, 2508, 2520, 3903, 4216, 4253, 4308, 4743, 5781, 6042, 6328, 6332, 6349, 6351, 6367, 6368, 6371, 6372, 6374, 6468, 6836, 6856, 6860, 7568, 7658, 7987, 8591, 9250, 10667, 10670, 13037, 13418, 14214, 14215, 14216, 14217
\@biblabel	7713, 7760	\@documentclasshook	4224	\@gobblefour	548, 658, 944, 945, 946, 3711
\@bookmarkopenstatus	4603, 4620, 14227	\@ehc	2564, 2691, 2717, 2733, 2768, 2807, 2814, 2825, 2831, 2869, 4306, 4922, 5190, 5542, 5666, 5862, 5895, 6089, 6142, 12659, 12712, 13264, 13318, 13633, 13691	\@gobbleopt	6374, 6376
\@bookmarksoopenlevel	3457, 3459, 4606	\@ehd	63, 265, 271, 295, 7567, 7657	\@gobbletwo	546, 625, 651, 659, 660, 943, 1365, 1442, 1446, 2396, 3709, 3710, 4257, 5727, 6353, 6362, 6370, 6374, 8515, 14553
\@bsphack	2176, 5018, 7797	\@elt	6949, 6951, 6952, 6957		
\@capstartfalse	7606	\@endForm	5831, 10329, 12482, 12757, 12785, 13090, 13444		
\@caption	7571, 7583, 7626, 7663, 7665	\@eqnocr	7259		
\@capttype	2185, 7566, 7570, 7574, 7581, 7588, 7642, 7656, 7660, 7663	\@eqnstarfalse	7233, 7262		
\@car	1330, 1346, 1364, 1384, 3436, 5448	\@eqnstartrue	7259		
\@chapter	14562, 14563	\@eqnswtrue	7197, 7206		
\@cite	7858, 7864	\@esphack	2197, 5029, 7807, 8250		
\@citeOpt	7859, 7865, 7869, 7879	\@extra@b@citeb	7698, 7701, 7718, 7723, 7743		
\@citebordercolor	3551, 4143				
\@citecolor	3497				
\@citedata@Opt	7860, 7866, 7868				
\@citedatax	7875, 7880				
\@citedatax@Opt	7872, 7878				
\@citeseppen	7857, 7863				
\@commahyperpage	8332, 8337				

<code>\@harvarditem</code>	7812, 7814	<code>\@latex@error</code>	7567, 7657	<code>\@one</code> 2583, 2756, 4517, 4591, 4892,
<code>\@hyper@anchor</code>	5276, 5277	<code>\@latex@warning</code>	5005, 8373,	9891, 9892, 9897, 10760,
<code>\@hyper@itemfalse</code>	6893, 6910,	8393, 8410, 8542		11711, 12489, 13453
6925		<code>\@bibitem</code>	7714, 7759	<code>\@newctr</code>
<code>\@hyper@itemtrue</code>	6894	<code>\@linkbordercolor</code>	3553, 4138,	<code>\@newl@bel</code>
<code>\@hyper@launch</code>	5196, 5205,	8977, 10388		<code>\@nil</code>
9047, 9985, 10559, 11568		<code>\@linkcolor</code>	3495, 11218	303, 1242, 1245, 1253, 1330,
<code>\@hyper@linkfile</code>	5177, 5180,	<code>\@linkdim</code> 457, 9404, 9405, 9413,		1348, 1366, 1382, 1384,
5184, 5216		9414, 9415, 9484, 9485,		1387, 1390, 1393, 1923,
<code>\@hyper@readexternallink</code> 5171,		9497, 9498, 9499, 9521,		1925, 1941, 1943, 3436,
5175		9522, 9535, 9536, 9537,		4799, 4803, 4808, 5243,
<code>\@hyperdef</code>	4985, 4986	9561, 9562, 9575, 9576,		5251, 5257, 5259, 5448,
<code>\@hyperpage</code>	8329, 8330	9577, 11940, 11941, 11949,		6033, 6036, 6055, 6443,
<code>\@hyperref</code>	4965, 4977	11950, 11951, 12222, 12223,		6446, 6453, 6455, 6456,
<code>\@ifclassloaded</code>	9253	12236, 12237, 12238		6570, 6618, 6619, 6621,
<code>\@ifl@t@r</code>	6378, 7141	<code>\@listctr</code>	7749, 7775	6644, 6661, 6715, 6717,
<code>\@ifnextchar</code>	12, 88, 103, 123,	<code>\@m</code> 9278, 10212, 10356, 10714,		7163, 7172, 7174, 7186,
652, 4867, 4965, 4985, 5124,		11670		8316, 8318, 8325, 8348,
5830, 6151, 6154, 6157,		<code>\@mainaux</code>	5380, 6819, 6827,	8351, 8361, 8377, 8380,
6160, 6163, 6166, 6169,		12983, 12986, 13014, 13029		8550, 8581, 8653, 8659,
6374, 6424, 6433, 7511,		<code>\@makecaption</code> 7607, 7609, 7676		8663, 8669, 10632, 10634,
7529, 7812, 7870, 11190,		<code>\@makefnmark</code>	7403, 7558	13803, 13816, 13822, 14255,
11479, 11493, 14306, 14309		<code>\@makefntext</code>	7477	14258, 14261, 14270, 14273,
<code>\@ifpackageloaded</code>		<code>\@makeother</code>	166, 167,	14282
.	787, 2171, 2617, 4201,	179, 180, 182, 183, 188, 189,		<code>\@nocnterr</code>
4399, 6935, 7108, 7146,		190, 191, 192, 193, 194, 195,		8151, 8166
7156, 7193, 7320, 7408,		196, 197, 198, 199, 200, 201,		<code>\@nocounterr</code>
7424, 7464, 7639, 7782,		202, 203, 4767, 8629, 14395,		8150, 8165
7855, 8110, 8163, 8198,		14398, 14422, 14425		<code>\@number</code>
8199, 8200, 8456, 12152		<code>\@menubordercolor</code> . 3554, 4140,		7051, 7947
<code>\@ifpackagewith</code>	3294, 4199	9316, 9318, 10059, 10061,		<code>\@nx</code>
<code>\@ifstar</code>	66, 6310, 6314, 6383,	10597, 10599, 11472		8154, 8169, 8172, 8174
6387, 8495		<code>\@menucolor</code> 3500, 9331, 10070,		<code>\@onelevel@sanitize</code> . 2389, 2393,
<code>\@ifundefined</code>		10603		2598, 3435, 4283, 4313,
34, 342, 475, 854, 864, 897,		<code>\@mkboth</code>	625, 14553	4327, 4833, 5238, 5241,
900, 2309, 2485, 2635, 2656,		<code>\@mpfn</code>	7334, 7530, 7543	5254, 5268, 5538, 5774,
2657, 3312, 3357, 3365,		<code>\@mpfootnotetext</code> . . 7337, 7350,		5858, 6671, 6673, 7092,
3372, 3394, 3434, 4396,		7351, 7413		8017, 8424, 9749, 14252
4397, 5537, 5857, 6307,		<code>\@mycount</code>	14371, 14381	<code>\@outlinefile</code> 14225, 14314, 14409,
6789, 6903, 6947, 7148,		<code>\@namedef</code>	2142, 2144, 2146,	14411, 14488, 14490
7157, 7160, 7161, 7192,		2148, 2150, 2152, 2154,		<code>\@pagerefstar</code> . 4718, 8440, 8461,
7236, 7318, 7327, 7564,		2156, 2158, 2160, 2162,		8468, 8477, 8486
7572, 7590, 7707, 7984,		2163, 2164, 2165, 2166,		<code>\@pagesetref</code>
8039, 8090, 8098, 8104,		2167, 2168, 2169, 2170,		8389
8108, 8134, 8141, 8150,		2332, 2645, 2646, 2647,		<code>\@parboxrestore</code> 7474, 7599, 7671
8151, 8161, 8165, 8166,		2648, 2649, 2650, 2651,		<code>\@parcount</code>
8173, 8457, 10863, 10864,		3303, 3315, 5548, 5549,		14373, 14381
12935, 13037, 13418, 13794,		5550, 5551, 5873, 5874,		<code>\@part</code>
13805, 14223, 14534, 14581		7258, 7261, 7787, 7788,		14580, 14584
<code>\@indexfile</code>	8242, 8257, 8272,	7789, 7790		<code>\@partaux</code>
8276, 8286		<code>\@namerefstar</code>	4722, 8443	5378
<code>\@inmathwarn</code>	510, 511	<code>\@nameuse</code>	2185, 2642, 5554,	<code>\@pdfauthor</code> . 3727, 4146, 9154,
<code>\@inpenc@undefined@</code>	1914	5865		9607, 10093, 10834, 11089,
<code>\@latex@</code>	6455, 6456			12001
				<code>\@pdfborder</code>
			
				3386, 3572, 3573, 3574,
				3581, 3585, 3608, 3610,
				4686, 8910, 9767, 10386,
				10967, 11050, 11470, 11483,
				11498, 11519, 11547, 11578,
				11607, 11717, 11813, 11981

\@pdfborderstyle . . . 3387, 3589,
3590, 3591, 3600, 3604,
3612, 3614, 4687, 6004,
8911, 9768, 10387, 10968,
11051, 11471, 11484, 11499,
11520, 11548, 11579, 11608,
11718, 11814, 11982
\@pdfcreationdate
. . 3749, 4149, 9158, 9160,
9599, 9601, 10085, 10087,
11064, 11066, 11993, 11995
\@pdfcreator . 3739, 3744, 4148,
9157, 9598, 10084, 10837,
11088, 11992
\@pdfdirection 9117, 9665,
10128, 10793, 11145, 12052
\@pdfduplex 9123, 9671, 10134,
10799, 11151, 12058
\@pdfhighlight 3558, 3566, 3568,
4144, 10966, 11049, 11469,
11518, 11546, 11577
\@pdfkeywords 3768, 4152, 9170,
9596, 10098, 10842, 11090,
11990
\@pdflang 4019, 4021, 4022, 4024,
4026, 4028, 4034, 4064,
4065, 4067, 4088, 4092,
4094, 4111, 4120, 4127,
4159, 9143, 9145, 9693,
9695, 10168, 10170, 11175,
11177, 12082, 12084
\@pdfm@dest . . 9711, 9770, 9774
\@pdfm@mark
. . 6807, 9710, 9762, 9782,
9796, 9798, 9812, 9814,
9819, 9820, 9850, 9874,
9876, 9881, 9899, 9922,
9955, 9990, 10022, 10052,
10080, 10149, 10176, 13421,
13422, 13423, 13442, 13460,
13463, 13493, 13588, 13615,
13646, 13671, 13699, 13728,
13739, 13772, 13780, 14459
\@pdfmoddate
. . 3755, 4150, 9162, 9164,
9603, 9605, 10089, 10091,
11068, 11072, 11997, 11999
\@pdfnonfullscreenpagemode . .
9116, 9664, 10127, 10792,
11144, 12051
\@pdfnumcopies 9132, 9134, 9680,
9682, 10143, 10145, 10808,
10810, 11160, 11162, 12067,
12069
\@pdfpageduration . 3513, 9215,
9219, 9224, 10193, 10195,
10198, 10723, 10725, 10728,
11006, 11008, 11016
\@pdfpagelayout 9142,
9692, 10167, 10813, 10815,
11174, 12081
\@pdfpagemode 4385, 4386, 4616,
4617, 4626, 4627, 9096,
9648, 10162, 10780, 11128,
12035
\@pdfpagescrop 3973, 4154, 9081,
9085, 9631, 9632, 9653,
9655, 10174, 10176, 10769,
10771, 11133, 11135, 12040,
12042
\@pdfpagetransition . 3509, 9191,
9195, 9200, 10182, 10184,
10187, 10612, 10614, 10616,
10989, 10991, 10999
\@pdfpicktraybypdfsize
. . 9124, 9126, 9672, 9674,
10135, 10137, 10800, 10802,
11152, 11154, 12059, 12061
\@pdfprintarea 9120, 9668,
10131, 10796, 11148, 12055
\@pdfprintclip 9121, 9669, 10132,
10797, 11149, 12056
\@pdfprintpagerange
. . 3679, 4158, 9128, 9130,
9676, 9678, 10139, 10141,
10804, 10806, 11156, 11158,
12063, 12065
\@pdfprintscaling . . 9122, 9670,
10133, 10798, 11150, 12057
\@pdfproducer
. . 3733, 4147, 9166, 9168,
9608, 9610, 10094, 10096,
10737, 10738, 10742, 10745,
10746, 10838, 10840, 11075,
11079, 11604, 11605, 11710,
11712, 11714, 11810, 11811,
12002, 12004
\@pdfremotestartview
. . 3934, 3936, 3937, 3960,
3964, 3966, 3967, 3969,
4156, 9035, 9971, 11558
\@pdfstartpage
. . 3917, 3919, 4157, 9102,
9106, 9635, 9640, 10151,
10155, 10773, 10777, 11115,
11120, 12022, 12027
\@pdfstartview
. . 3924, 3926, 4155, 9104,
9106, 9637, 9641, 10153,
10155, 10775, 11117, 11121,
12024, 12028
\@pdfsubject . 3762, 4151, 9156,
9612, 10083, 10836, 11087,
12006
\@pdftempa . . . 5182, 5183, 5186
\@pdftempwordfile . . 5173, 5183
\@pdftempwordrun . 5174, 5186
\@pdftitle 3721, 4145, 9155, 9597,
10082, 10835, 11086, 11991
\@pdftrapped 3773, 3776, 3779,
3788, 3797, 4153, 9171,
9173, 10099, 10101, 11091
\@pdfview . . . 3905, 8892, 8900,
9717, 9721, 9725, 9729,
9733, 9737, 9738, 9741,
9742, 9745, 9749, 9751,
9766, 10385, 10395, 10407,
10904, 10924, 11609, 11719,
11815, 12094
\@pdfviewarea 9118, 9666, 10129,
10794, 11146, 12053
\@pdfviewclip 9119, 9667, 10130,
10795, 11147, 12054
\@pdfviewparams 3907,
3909, 10904, 10924, 11610,
11720, 11816, 12095
\@percentchar 4762, 4763, 4815,
14229
\@processme
. . 5906, 5907, 9197, 9203,
9221, 9227, 11193, 11194,
11316, 11317, 11320, 11321
\@protected@testopt 655
\@protected@testopt@xargs 656
\@refstar 4714, 8437
\@runbordercolor
. . 3555, 4142, 9056, 9058,
9997, 9999, 10578, 10580,
11581
\@runcolor . . 3501, 9076, 10013,
10584
\@safe@activesfalse 608
\@safe@activestrue 607
\@savsf 8895, 8903
\@schapter 14550, 14551
\@secondoffive 4720, 8399, 8400,
8441
\@secondoftwo . . . 592, 601, 892,
1316, 14603
\@sect 14598, 14599
\@seqncr 7259

<code>\@serial@counter</code>	14321, 14369, 14371, 14372	<code>\@undefined</code>	355, 358, 444, 446, 661, 2662, 2722, 3285, 4405, 4494, 6364, 6398, 6406, 6417, 6633, 6651, 6696, 7566, 7630, 7635, 7641, 7656, 8432, 10748, 10762, 15050, 15067, 16329, 16517, 17038		15427, 15441, 15455, 15483, 15485, 15529, 15531, 15545, 15547, 15584, 15586, 15587, 15667, 15669, 15715, 15717, 15719, 15721, 17418, 17420
<code>\@setminipage</code>	7601, 7673	<code>\@unexpandable@protect</code>	4970, 8303, 8422		<code>_</code> ... 187, 212, 521, 4754, 4771, 4772, 5042, 5055, 5068
<code>\@setref</code>	8368, 8369, 8406	<code>\@unprocessedoptions</code>	4564		<code>\`</code> ... 166, 172, 179, 182, 3020, 3155, 3160, 3165, 3166, 3169, 3172, 3175, 3177, 3185, 14246, 14636, 14648, 14660, 14870, 14886, 14894, 14907, 14921, 14936, 14952, 14960, 14961, 14976, 14990, 15039, 15098, 15127, 15158, 15329, 15345, 15353, 15365, 15381, 15396, 15412, 15420, 15421, 15437, 15451, 15852, 15854, 16519, 16548, 16689, 16718, 17386, 17388, 17464, 17466, 19634, 19639, 19644, 19649, 19654, 19659, 19664, 19669, 19674, 19679, 19684, 19689, 19694, 19699, 19704, 19709, 19714, 19719, 19724, 19729, 19734, 19739, 19744, 19749
<code>\@sharp</code>	7163, 7169	<code>\@urlbordercolor</code>	3556, 4139, 8987, 8989, 10029, 10031, 10510, 10512, 11521		<code>\|</code> ... 188, 213, 317, 1653, 1746, 1787, 2966, 4182, 8202, 8628, 8638
<code>\@skiphyperreffalse</code>	6911, 7729, 7741	<code>\@urlcolor</code>	3499, 9006, 9409, 9422, 9529, 9546, 10043, 10516, 11945, 11958, 12231, 12244		<code>\-</code> ... 520, 962, 1901, 3078, 3086, 3087, 3088, 4775, 14639, 14651, 14663, 14876, 14905, 14913, 14942, 14974, 14982, 15045, 15101, 15130, 15161, 15335, 15363, 15371, 15402, 15435, 15443, 15556, 15558, 15559, 15691, 15693, 17378, 17380, 17448, 17450, 17472, 17474, 19636, 19641, 19646, 19651, 19656, 19661, 19666, 19671, 19676, 19681, 19686, 19691, 19696, 19701, 19706, 19711, 19716, 19721, 19726, 19731, 19736, 19741, 19746, 19751
<code>\@skiphyperreftrue</code>	7715, 7741	<code>\@urltype</code>	9375, 9380, 10249, 10275, 10415, 10429, 11907, 11912, 12193, 12198		
<code>\@spaces</code>	253	<code>\@whilenum</code>	960		
<code>\@spart</code>	14590, 14591	<code>\@wrindex</code>	8206, 8207, 8238		
<code>\@ssect</code>	14536, 14537	<code>\@writefile</code>	7800		
<code>\@tempa</code>	7426, 7430, 7433, 7445	<code>\@x@sf</code>	7396, 7405, 7557, 7559		
<code>\@tempb</code>	7283, 7287	<code>\@xfootnote</code>	7529		
<code>\@tempboxa</code>	9402, 9404, 9413, 9482, 9484, 9487, 9488, 9497, 9503, 9504, 9519, 9521, 9524, 9525, 9535, 9541, 9542, 9559, 9561, 9564, 9565, 9575, 9581, 9582, 11938, 11940, 11949, 12220, 12222, 12236	<code>\@xfootnotemark</code>	7343, 7548		
<code>\@tempcnta</code>	1893, 14179, 14180, 14181, 14182, 14183, 14185, 14188, 14189, 14190, 14196, 14198, 14200, 14290, 14291, 14292, 14295, 14296, 14297, 14298, 14299, 14507, 14508, 14509	<code>\@xfootnotenext</code>	7332, 7541		
<code>\@tempdima</code>	2245, 6206, 6207, 6208, 6209, 6210, 6211, 6212, 6213, 12554, 12559, 12561, 12597, 12598, 12599, 12603, 12604, 12605, 12606, 13155, 13160, 13162, 13199, 13200, 13201, 13205, 13206, 13207, 13208, 13511, 13516, 13518, 13555, 13556, 13557, 13561, 13562, 13563, 13564	<code>\@xp</code>	8124, 8153, 8154, 8168, 8169, 8171, 8172		
<code>\@tempdimb</code>	12558, 12559, 13159, 13160, 13515, 13516	<code>\@xxxii</code>	5080		
<code>\@tempswafalse</code>	7874	<code>\[</code>	192, 217, 313, 3578, 3596, 4934		
<code>\@tempswatruer</code>	7844, 7847, 7850, 7871	<code>\{</code>	321, 513, 1747, 10895, 14247		
<code>\@temptokena</code>	3281, 3286, 3289, 3291	<code>\}</code>	322, 514, 1748, 10895, 14248		
<code>\@tfor</code>	7284	<code>_</code>	324, 640, 3101, 3104, 3930, 14660, 14661, 14662, 14663, 14664, 14665, 14666, 14667, 14668, 14669, 14670, 14671, 15127, 15128, 15129, 15130, 15131, 15132, 15133, 15134, 15135, 15136, 15138, 15140, 15141, 15142, 15143, 15144, 15145, 15146, 15147, 15148, 15149, 15150, 15151, 15152, 15153, 15154, 15155		
<code>\@the@H@page</code>	7914, 7950, 7952, 7953	<code>\]</code>	193, 218		
<code>\@the@fnmark</code>	7335, 7346, 7437, 7476, 7493, 7500, 7531, 7544, 7551	<code>\^</code>	186, 211, 311, 1845, 1846, 3084, 4750, 4751, 4759, 14638, 14650, 14662, 14874, 14890, 14898, 14911, 14925, 14940, 14956, 14966, 14967, 14980, 14994, 15043, 15100, 15129, 15160, 15333, 15349, 15357, 15369, 15385, 15400, 15416, 15426,		
<code>\@thirdoffive</code>	4724, 8444				Numbers
<code>\@thm</code>	7323, 7324				<code>\3</code> ... 497, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 2016, 2152, 2160, 2162, 14390, 14870, 14872,
<code>\@typeset@protect</code>	14520				

Numbers

<code>\3</code>	497, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 2016, 2152, 2160, 2162, 14390, 14870, 14872,
-----------------	---

14874, 14876, 14878, 14880,
 14882, 14884, 14886, 14888,
 14890, 14892, 14894, 14896,
 14898, 14900, 14902, 14903,
 14905, 14907, 14909, 14911,
 14913, 14915, 14917, 14919,
 14921, 14923, 14925, 14927,
 14929, 14931, 14932, 14934,
 14936, 14938, 14940, 14942,
 14944, 14946, 14948, 14950,
 14952, 14954, 14956, 14958,
 14960, 14961, 14963, 14964,
 14966, 14967, 14969, 14970,
 14972, 14974, 14976, 14978,
 14980, 14982, 14984, 14986,
 14988, 14990, 14992, 14994,
 14996, 14998, 15000, 15001,
 15003, 15095, 15329, 15331,
 15333, 15335, 15337, 15339,
 15341, 15343, 15345, 15347,
 15349, 15351, 15353, 15355,
 15357, 15359, 15361, 15363,
 15365, 15367, 15369, 15371,
 15373, 15375, 15379, 15381,
 15383, 15385, 15387, 15389,
 15391, 15392, 15394, 15396,
 15398, 15400, 15402, 15404,
 15406, 15408, 15410, 15412,
 15414, 15416, 15418, 15420,
 15421, 15423, 15424, 15426,
 15427, 15429, 15430, 15432,
 15435, 15437, 15439, 15441,
 15443, 15445, 15447, 15449,
 15451, 15453, 15455, 15457,
 15459, 15462, 15463, 15465,
 15798, 15802, 15806, 15809,
 15811, 15813, 15815, 15816,
 15818, 15820, 15822, 15824,
 15826, 15828, 15830, 15833,
 15835, 15837, 15839, 15841,
 15843, 15845, 15846, 15848,
 15850, 15852, 15854, 15856,
 15858, 15861, 15864, 16275,
 16278, 16281, 16283, 16286,
 16289, 16292, 16295, 16297,
 16299, 16301, 16303, 16305,
 16307, 16308, 16310, 16312,
 16314, 16316, 16318, 16453,
 16455, 16457, 16459, 16461,
 16463, 16465, 16467, 16469,
 16471, 16473, 16475, 16477,
 16479, 16480, 16482, 16484,
 16486, 16488, 16489, 16491,
 16492, 16494, 16495, 16497,

16498, 16501, 16502, 16504,
 16505, 16507, 16508, 16510,
 16511, 16514, 16920, 16922,
 16924, 16926, 16928, 16930,
 16932, 16934, 16936, 16938,
 16940, 16942, 16944, 16946,
 16948, 16950, 16952, 16954,
 16956, 16958, 16960, 16962,
 16964, 16967, 16970, 16972,
 16974, 16976, 16978, 16980,
 16982, 16984, 16986, 16988,
 16990, 16992, 16994, 16996,
 16998, 17001, 17004, 17006,
 17008, 17010, 17012, 17014,
 17016, 17018, 17020, 17022,
 17024, 17026, 17028, 17030,
 17032, 17034, 17036, 17040,
 17042, 17044, 17046, 17048,
 17050, 17052, 17054, 17056,
 17058, 17060, 17062, 17064,
 17066, 17068, 17070, 17072,
 17074, 17076, 17078, 17080,
 17082, 17084, 17086, 17088,
 17090, 17092, 17095, 17097,
 17099, 17101, 17452, 17454,
 17456, 17458, 17460, 17462,
 17464, 17466, 17468, 17470,
 17472, 17474, 17830, 17833,
 17836, 17839, 17842, 17845,
 17848, 17850, 17852, 17854,
 17856, 17859, 17862, 17865,
 17867, 17870, 17873, 17875,
 17878, 17881, 17884, 17887,
 17889, 17891, 17893, 17895,
 17897, 17899, 17901, 17903,
 17906, 17909, 17911, 17914,
 17916, 17919, 17921, 17923,
 17925, 17972, 18010, 18015,
 18388, 18390, 18392, 18395,
 18398, 18400, 18402, 18404,
 18406, 18408, 18411, 18414,
 18416, 18418, 18420, 18422,
 18425, 18428, 18430, 18432,
 18434, 18436, 18439, 18442,
 18444, 18446, 18448, 18450,
 18452, 18454, 18456, 18458,
 18460, 18463, 18466, 18468,
 18470, 18472, 18474, 18477,
 18481, 18484, 18487, 18489,
 18491, 18493, 18495, 18564,
 18567, 18643, 18645, 18647,
 18649, 18651, 18653, 18655,
 18657, 18659, 18661, 18663,
 18665, 18667, 18669, 18671,

18673, 18675, 18677, 18679,
 18681, 18683, 18685, 18687,
 18689, 18691, 18693, 18695,
 18697, 18699, 18701, 18703,
 18705, 18707, 18709, 18711,
 18713, 18715, 18717, 18719,
 18721, 18723, 18725, 18727,
 18729, 18731, 18760, 18763,
 18765, 18767, 18770, 18772,
 18774, 18776, 18779, 18781,
 18999, 19001, 19003, 19005,
 19007, 19178, 19180, 19182,
 19184, 19186, 19188, 19191,
 19195, 19197, 19199, 19201,
 19203, 19205, 19207, 19209,
 19211, 19213, 19215, 19319,
 19322, 19325, 19327, 19329,
 19331, 19333, 19335, 19337,
 19339, 19466, 19468, 19470,
 19472, 19474, 19477, 19480,
 19483, 19487, 19490, 19493,
 19495, 19497, 19499, 19501,
 19504, 19506, 19581, 19593,
 19595, 19597, 19599, 19601,
 19621, 19622, 19623, 19627,
 19628, 19629, 19632, 19634,
 19636, 19647, 19649, 19653,
 19654, 19655, 19656, 19657,
 19658, 19659, 19660, 19662,
 19663, 19664, 19665, 19666,
 19667, 19668, 19669, 19670,
 19671, 19672, 19673, 19674,
 19675, 19676, 19677, 19678,
 19679, 19680, 19682, 19683,
 19684, 19685, 19686, 19687,
 19688, 19689, 19690, 19691,
 19692, 19694, 19696, 19707,
 19709, 19713, 19714, 19715,
 19716, 19717, 19718, 19719,
 19720, 19722, 19723, 19724,
 19725, 19726, 19727, 19728,
 19729, 19730, 19731, 19732,
 19733, 19734, 19735, 19736,
 19737, 19738, 19739, 19740,
 19742, 19743, 19744, 19745,
 19746, 19747, 19748, 19749,
 19750, 19751, 19855

\9 . 500, 1026, 1029, 1060, 1944,
 1959, 1968, 1996, 2016,
 2052, 2056, 2070, 2074,
 2082, 2087, 2090, 2124,
 2128, 2131, 2134, 2144,
 2146, 2148, 2150, 2152,
 2154, 2156, 2158, 2160,

2162, 15095, 17104, 17106,
17108, 17110, 17112, 17114,
17117, 17120, 17123, 17126,
17128, 17130, 17132, 17134,
17136, 17138, 17140, 17142,
17144, 17147, 17149, 17152,
17154, 17157, 17159, 17163,
17167, 17170, 17172, 17174,
17176, 17178, 17180, 17182,
17184, 17186, 17188, 17190,
17192, 17194, 17196, 17198,
17200, 17202, 17204, 17207,
17210, 17213, 17216, 17218,
17220, 17222, 17224, 17226,
17228, 17230, 17232, 17234,
17236, 17238, 17240, 17242,
17244, 17246, 17248, 17250,
17252, 17254, 17256, 17258,
17260, 17262, 17264, 17266,
17268, 17270, 17272, 17274,
17276, 17278, 17280, 17282,
17284, 17286, 17288, 17290,
17292, 17294, 17296, 17298,
17300, 17302, 17304, 17306,
17308, 17311, 17314, 17317,
17320, 17322, 17324, 17326,
17328, 17330, 17332, 17334,
17336, 17338, 17340, 17342,
17344, 17346, 17348, 17350,
17352, 17354, 17356, 17358,
17360, 17362, 17364, 17366,
17368, 17370, 17372, 17374,
17376, 17378, 17380, 17382,
17384, 17386, 17388, 17390,
17392, 17394, 17396, 17398,
17400, 17402, 17404, 17406,
17408, 17410, 17412, 17414,
17416, 17418, 17420, 17422,
17424, 17426, 17428, 17430,
17432, 17434, 17436, 17438,
17440, 17442, 17444, 17446,
17448, 17450, 17452, 17454,
17456, 17458, 17460, 17462,
17464, 17466, 17468, 17470,
17472, 17474, 17476, 17478,
17480, 17482, 17485, 17487,
17489, 17491, 17493, 17495,
17497, 17500, 17504, 17506,
17508, 17511, 17513, 17515,
17517, 17519, 17521, 17523,
17525, 17527, 17529, 17531,
17533, 17535, 17537, 17539,
17541, 17543, 17545, 17547,
17549, 17551, 17553, 17555,

17557, 17559, 17561, 17563,
17565, 17567, 17569, 17571,
17573, 17575, 17577, 17579,
17581, 17583, 17585, 17587,
17589, 17591, 17593, 17595,
17597, 17599, 17601, 17603,
17605, 17607, 17609, 17611,
17613, 17615, 17617, 17619,
17621, 17623, 17625, 17627,
17629, 17631, 17633, 17635,
17637, 17639, 17641, 17652,
17655, 17657, 17659, 17661,
17663, 17665, 17667, 17669,
17672, 17674, 17676, 17678,
17680, 17682, 17684, 17687,
17689, 17691, 17695, 17697,
17699, 17701, 17703, 17705,
17707, 17709, 17713, 17715,
17717, 17719, 17721, 17723,
17725, 17727, 17729, 17731,
17733, 17735, 17737, 17739,
17741, 17743, 17745, 17747,
17749, 17751, 17755, 17759,
17761, 17763, 17765, 17768,
17771, 17773, 17775, 17777,
17779, 17781, 17784, 17786,
17788, 17790, 17792, 17794,
17796, 17798, 17800, 17802,
17804, 17806, 17810, 17813,
17815, 17818, 17821, 17824,
17827, 17830, 17833, 17836,
17839, 17842, 17845, 17848,
17850, 17852, 17854, 17856,
17859, 17862, 17865, 17867,
17870, 17873, 17875, 17878,
17881, 17884, 17887, 17889,
17891, 17893, 17895, 17897,
17899, 17901, 17903, 17906,
17909, 17911, 17914, 17916,
17919, 17921, 17923, 17925,
17927, 17929, 17931, 17933,
17935, 17937, 17940, 17942,
17944, 17946, 17948, 17950,
17953, 17956, 17958, 17960,
17962, 17964, 17966, 17968,
17970, 17972, 17974, 17976,
17978, 17980, 17982, 17984,
17987, 17989, 17991, 17993,
17998, 18000, 18003, 18005,
18008, 18010, 18013, 18015,
18018, 18020, 18022, 18025,
18027, 18029, 18032, 18035,
18037, 18039, 18042, 18045,
18047, 18049, 18052, 18054,

18057, 18059, 18061, 18064,
18066, 18068, 18070, 18072,
18074, 18077, 18079, 18081,
18084, 18086, 18088, 18091,
18093, 18095, 18097, 18099,
18102, 18104, 18106, 18108,
18110, 18112, 18115, 18118,
18121, 18123, 18126, 18128,
18130, 18132, 18134, 18136,
18138, 18140, 18142, 18146,
18148, 18150, 18151, 18154,
18157, 18161, 18162, 18166,
18167, 18170, 18172, 18174,
18176, 18178, 18180, 18182,
18184, 18186, 18188, 18190,
18192, 18194, 18197, 18199,
18201, 18204, 18207, 18209,
18211, 18213, 18215, 18217,
18219, 18221, 18223, 18225,
18227, 18229, 18231, 18233,
18235, 18237, 18239, 18241,
18243, 18245, 18247, 18249,
18251, 18253, 18255, 18257,
18259, 18261, 18263, 18265,
18267, 18269, 18271, 18273,
18275, 18277, 18279, 18281,
18283, 18286, 18289, 18292,
18295, 18298, 18302, 18306,
18308, 18310, 18312, 18314,
18316, 18319, 18322, 18325,
18328, 18330, 18333, 18336,
18340, 18343, 18345, 18348,
18351, 18354, 18358, 18361,
18364, 18367, 18370, 18374,
18378, 18380, 18382, 18384,
18386, 18388, 18390, 18392,
18395, 18398, 18400, 18402,
18404, 18406, 18408, 18411,
18414, 18416, 18418, 18420,
18422, 18425, 18428, 18430,
18432, 18434, 18436, 18439,
18442, 18444, 18446, 18448,
18450, 18452, 18454, 18456,
18458, 18460, 18463, 18466,
18468, 18470, 18472, 18474,
18477, 18481, 18484, 18487,
18489, 18491, 18493, 18495,
18497, 18499, 18501, 18503,
18505, 18509, 18511, 18513,
18515, 18517, 18519, 18521,
18523, 18525, 18527, 18529,
18531, 18534, 18537, 18539,
18542, 18545, 18547, 18550,
18553, 18555, 18557, 18559,

18561, 18564, 18567, 18569,
18571, 18573, 18576, 18578,
18580, 18582, 18584, 18586,
18588, 18590, 18592, 18594,
18596, 18598, 18600, 18602,
18604, 18606, 18608, 18610,
18612, 18614, 18616, 18618,
18621, 18623, 18625, 18627,
18629, 18631, 18633, 18635,
18637, 18639, 18641, 18643,
18645, 18647, 18649, 18651,
18653, 18655, 18657, 18659,
18661, 18663, 18665, 18667,
18669, 18671, 18673, 18675,
18677, 18679, 18681, 18683,
18685, 18687, 18689, 18691,
18693, 18695, 18697, 18699,
18701, 18703, 18705, 18707,
18709, 18711, 18713, 18715,
18717, 18719, 18721, 18723,
18725, 18727, 18729, 18731,
18733, 18738, 18742, 18746,
18749, 18751, 18753, 18757,
18760, 18763, 18765, 18767,
18770, 18772, 18774, 18776,
18779, 18781, 18785, 18787,
18789, 18791, 18794, 18797,
18800, 18804, 18806, 18808,
18810, 18813, 18818, 18821,
18823, 18825, 18830, 18833,
18836, 18838, 18841, 18843,
18845, 18848, 18855, 18858,
18863, 18866, 18869, 18872,
18875, 18878, 18881, 18884,
18887, 18890, 18893, 18896,
18899, 18902, 18905, 18908,
18911, 18914, 18917, 18921,
18924, 18927, 18929, 18931,
18933, 18935, 18937, 18940,
18942, 18944, 18946, 18948,
18950, 18953, 18955, 18958,
18960, 18963, 18965, 18967,
18969, 18971, 18973, 18975,
18977, 18979, 18981, 18983,
18985, 18987, 18989, 18991,
18994, 18996, 18999, 19001,
19003, 19005, 19007, 19009,
19013, 19017, 19019, 19021,
19023, 19025, 19027, 19030,
19032, 19035, 19037, 19039,
19041, 19043, 19045, 19048,
19050, 19052, 19054, 19056,
19058, 19060, 19062, 19064,
19066, 19068, 19070, 19072,

19075, 19077, 19079, 19081,
19083, 19085, 19087, 19089,
19091, 19093, 19095, 19097,
19099, 19101, 19103, 19105,
19107, 19109, 19111, 19113,
19115, 19117, 19119, 19122,
19124, 19126, 19128, 19130,
19132, 19134, 19136, 19138,
19140, 19142, 19144, 19146,
19148, 19151, 19154, 19156,
19159, 19162, 19165, 19168,
19170, 19172, 19174, 19176,
19178, 19180, 19182, 19184,
19186, 19188, 19191, 19195,
19197, 19199, 19201, 19203,
19205, 19207, 19209, 19211,
19213, 19215, 19217, 19219,
19221, 19223, 19225, 19227,
19229, 19232, 19235, 19238,
19241, 19243, 19248, 19252,
19255, 19257, 19259, 19262,
19265, 19268, 19271, 19274,
19277, 19280, 19283, 19286,
19289, 19292, 19295, 19297,
19299, 19301, 19303, 19305,
19308, 19314, 19317, 19319,
19322, 19325, 19327, 19329,
19331, 19333, 19335, 19337,
19339, 19341, 19343, 19345,
19348, 19350, 19352, 19354,
19357, 19360, 19362, 19364,
19366, 19369, 19371, 19374,
19376, 19380, 19383, 19385,
19387, 19389, 19391, 19393,
19395, 19397, 19399, 19401,
19403, 19405, 19407, 19410,
19412, 19414, 19417, 19420,
19422, 19424, 19426, 19428,
19430, 19432, 19434, 19436,
19438, 19440, 19442, 19444,
19446, 19448, 19450, 19452,
19454, 19456, 19458, 19460,
19462, 19464, 19466, 19468,
19470, 19472, 19474, 19477,
19480, 19483, 19487, 19490,
19493, 19495, 19497, 19499,
19501, 19504, 19506, 19509,
19511, 19513, 19515, 19517,
19519, 19521, 19524, 19526,
19529, 19532, 19535, 19538,
19540, 19542, 19544, 19546,
19548, 19550, 19552, 19554,
19556, 19558, 19561, 19564,
19566, 19568, 19570, 19572,

19574, 19576, 19578, 19581,
19584, 19586, 19588, 19590,
19593, 19595, 19597, 19599,
19601, 19633, 19635, 19637,
19638, 19639, 19640, 19641,
19642, 19643, 19644, 19645,
19646, 19648, 19650, 19651,
19652, 19653, 19654, 19655,
19656, 19658, 19660, 19663,
19665, 19667, 19668, 19669,
19670, 19671, 19672, 19673,
19674, 19675, 19676, 19678,
19680, 19682, 19683, 19684,
19685, 19686, 19688, 19689,
19690, 19691, 19693, 19695,
19697, 19698, 19699, 19700,
19701, 19702, 19703, 19704,
19705, 19706, 19708, 19710,
19711, 19712, 19713, 19714,
19715, 19716, 19718, 19720,
19723, 19725, 19727, 19728,
19729, 19730, 19731, 19732,
19733, 19734, 19735, 19736,
19738, 19740, 19742, 19743,
19744, 19745, 19746, 19748,
19749, 19750, 19751, 19857,
19859

A

\a 282, 284, 288, 294
\ABREVE 19626, 19697, 19698,
19699, 19700, 19701
\abreve .. 19620, 19637, 19638,
19639, 19640, 19641
\AC 18055, 20913
\AccFancyVerbLineautorefname
..... 3128
\Accfootnoteautorefname . 3108
\Acctheoremautorefname . 3132
\acctonos 3190, 3191, 3192, 3193,
3194, 3195, 3196, 3197,
3198, 3199, 3200, 3201,
3202, 3203, 3204, 3205
\Acht 19565, 20713
\ACIRCUMFLEX 19627, 19702,
19703, 19704, 19705, 19706
\acircumflex 3177, 19621, 19642,
19643, 19644, 19645, 19646
\AcPa 19551, 20707
\Acrobatmenu 2216, 4262, 6361,
9308, 10048, 10589, 11463
\active 940,
947, 1524, 4751, 4752, 4753,
4754, 4755, 4756, 4759,

4761, 4764, 4772, 14394, 14421	\Ankh 18822, 20426	\autopageref 4384, 8494
\add@accent 512	\APLbox 18560, 20385	\autoref . 629, 4383, 8513, 12261
\addcontentsline . . . 7595, 7667, 7985, 7990, 8084	\APLdown 18758, 20980	\ayn 19803
\addtocontents 8030, 8085	\APLdownarrowbox . . . 18549, 20380	B
\addtocounter 7301	\APLinput 18552, 20381	\b 283, 284, 788, 792, 798, 14646, 14658, 14670, 15091, 15120, 15149, 17182, 17184, 17194, 17196, 17266, 17268, 17274, 17276, 17302, 17304, 17338, 17340, 17358, 17360, 17426, 17428, 17430
\AddToDocumentProperties 2308, 3718, 3724, 3730, 3736, 3759, 3765	\APLinv 18526, 20372	\baa 19769
\AddToHook . 5377, 5379, 7321, 8602	\APLleftarrowbox 18541, 20377	\babygamma 16037, 19904
\AddToHookNext . . 7040, 7312	\APLrightarrowbox 18544, 20378	\back@none . . . 2911, 2921, 2934
\adl@LT@array 7161	\APLup 18743, 20977	\back@page 2913, 2926
\advance 455, 456, 961, 4900, 5089, 5102, 5398, 5726, 5772, 6207, 6208, 6211, 6212, 6543, 6551, 6588, 7886, 7896, 7899, 7913, 9414, 9498, 9536, 9576, 9891, 9901, 10744, 11950, 12237, 12489, 12561, 12604, 12605, 13099, 13162, 13206, 13207, 13453, 13518, 13562, 13563, 14180, 14182, 14183, 14189, 14198, 14298, 14508	\APLuparrowbox . 18546, 20379	\back@section 2912, 2918, 2924, 2930
\AE 14882, 15341, 15856	\appendix 6998, 7010	\back@slide 2914, 2923
\ae 14948, 15408, 15858	\appendixautorefname 2976, 2994, 3012, 3030, 3048, 3066, 3084, 3116, 3117, 3142, 3160, 3178, 3196, 3214, 3232, 3250, 3268, 8613	\backcite 7801
\afterassignment . . . 1533, 1539, 1545, 5982	\apprge 18205, 20928	\backcong 18092, 20186
\AfterBeginDocument . 342, 356	\apprle 18202, 20927	\backepsilon 16513
\aftergroup 7480	\approx 18078, 20180	\backneg 18498, 20359
\agemO 17685, 20884	\approxeq 18083, 20182	\backprime 17520, 19982
\ainferior 20015	\Aquarius 18909, 21024	\backref 7832, 12265
\alef 19767	\aquarius 18907, 20452	\backsim 18056, 20170
\alefhamza 19759	\arabic . 6634, 6867, 6869, 6871, 6874, 6875, 6876, 6878, 6879, 6880, 6881, 6883, 6884, 6885, 6886, 6887, 6888, 6891, 6901, 6902, 8095, 8104, 8149, 8164	\backsimeq 18403, 20318
\aleflowerhamza 19763	\Aries 18879, 21014	\barb 15743, 20766
\alefmadda 19757	\aries 18877, 20442	\bard 15507, 20758
\alefmaqura 19825	\ast 17975, 20138	\bari 16051, 19905
\aleph 17696, 20037	\Asterisk 19123, 20535	\barin 18494, 20357
\Alph 6637, 7006	\AsteriskBold . . . 19100, 20524	\barj 16022, 20798
\alph 6638, 7276, 7303	\AsteriskCenterOpen . . . 19102, 20525	\barl 15765, 19890
\alpha 16422, 19936	\AsteriskRoundedEnds . 19147, 20547	\barlambdab 15772, 20771
\amalg 17959, 20131	\asympt 18096, 20188	\barleftharpoon . . 19282, 20601
\AMSautorefname 8603	\AtBeginDocument 343, 5344, 5348, 6396, 7144, 7319, 12266	\baro 16097, 16098, 18530, 18532, 20970
\anchor@spot . 5281, 5294, 5301, 5307, 5309, 8947, 9355, 9450, 10321, 10398, 10901, 11248, 11251, 11887, 12174	\AtBeginShipout . . . 6489, 6501, 9847	\barp 17148, 19973
\and 6467	\AtBeginShipoutBox 6493, 6496, 9848, 9849	\barrightharpoon . 19288, 20603
\angle 17988, 20143	\AtBeginShipoutFirst . . . 6506, 10209, 11667, 11806	\barsci 17146, 19972
\AngleSign 17996, 20905	\AtEndDocument 6405	\barscu 17151, 19974
\Anglesign 17995, 20904	\AtEndOfPackage 353	\baru 16162, 19914
	\AtVeryEndDocument . . . 6736, 13046	\barwedge 18385, 20310
	\author 6423, 6433	\baselineskip 2219, 9469, 10920, 10952, 11650
		\bbl@cite@choice 7708
		\bbl@info 604
		\bbslash 18572, 20388
		\BCPdata 473, 480, 486
		\Beam 18556, 20383
		\because 18041, 20164
		\BeforeTeXIVht 2698
		\begin 590, 12287, 21082
		\belowpdfbookmark 14294

\beta	16424, 19937	\bullet	17979, 19977	\capitalring	15164
\betainferior	19967	\Bumpeq	18101, 20190	\capitaltie	15169
\beth	17698, 20038	\bumpeq	18105, 20192	\capitaltilde	15161
\between	18189, 20229			\Capricorn	18906, 21023
\bfseries	564, 8372, 8392, 8409, 8541	C		\capricornus	18904, 20451
\bgroup	649, 4867, 7466, 7479, 8860, 9865, 10321, 10941, 12793, 12885, 12906	\C	15068, 16770, 16773	\caption	7565, 7567, 7655, 7657
\biblecite	7699, 7705, 7709, 7734, 7749, 7765, 7775	\c	789, 793, 799, 3078, 3086, 3087, 3088, 6446, 6453, 14644, 14656, 14668, 14884, 14950, 15080, 15106, 15135, 15156, 15343, 15410, 15541, 15543, 15589, 15591, 15599, 15601, 15619, 15621, 15655, 15657, 15671, 15673, 15679, 15681, 15936, 15938, 16830, 16833, 17198, 17200, 17246, 17248	\catcode	172, 173, 184, 185, 186, 187, 206, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 916, 940, 947, 1524, 1653, 1654, 1787, 1788, 1844, 1845, 1846, 4636, 4638, 4750, 4751, 4752, 4753, 4754, 4755, 4756, 4759, 4761, 4764, 4772, 4782, 4873, 4874, 8628, 10982, 10983, 14323, 14325, 14394, 14397, 14421, 14424
\Bicycle	19585, 20722	\c@footnote	7345, 7428, 7436, 7550	\ccnc	19594, 20725
\bigcircle	20411	\c@Hy@AnnotLevel	9891, 9892, 9901	\ccnd	19596
\bigdoublevee	19344, 20626	\c@Hy@tempcnt	4885, 4886, 4892, 4900	\ccsa	19598, 20726
\bigdoublewedge	19342, 20625	\c@note	7889	\cdot	20733
\bigtriangledown	18756, 20401	\c@overlay	7889	\cdots	18488, 20354
\bigtriangleup	18741, 20396	\c@page	6543, 6551, 6568, 6588, 6589, 6593, 6605, 6607, 6612, 6619, 6621, 6623, 6652, 7886, 7890, 7892, 7896, 7899, 7900, 7913, 7943	\CESign	19602, 20728
\binampersand	15189, 20741	\c@secnumdepth	14570, 14585, 14600	\CESign	19604, 21077
\bindnasrepma	17710, 20887	\c@slide	7889	\cf@encoding	1265
\Biohazard	18820, 20425	\c@tocdepth	3427, 3432	\chapterautorefname	2977, 2995, 3013, 3031, 3049, 3067, 3085, 3114, 3143, 3161, 3179, 3197, 3215, 3233, 3251, 3269, 8614
\bitsetGetDec	5450, 5583, 5601, 5615, 5628, 5644, 5676, 5701	\calc@bm@number	14433, 14506	\chapternumberline	14212, 14217
\bitsetGetHex	5451	\calculate@pdfview	3901, 3904	\char	13080, 14327, 14364
\bitsetGetSetBitList	5439	\Cancer	18888, 21017	\chardef	258, 301, 2475, 2476, 2477, 2478, 2756, 2758, 4559, 4591, 11243, 11246, 11252
\bitsetIsEmpty	5580, 5598, 5612, 5625, 5641, 5673, 5698	\cancer	18886, 20445	\check@bm@number	14444, 14452, 14499, 14507
\bitsetReset	5553, 5587, 5606, 5620, 5633, 5649, 5681	\Cap	18421, 20326	\CheckBox	6156
\bitsetSetValue	5419, 5429	\cap	18017, 20154	\CheckCommand	7425
\blacksmiley	18835, 20430	\capdot	19368, 20636	\checkcommand	42, 7541, 7548, 7555, 7655, 7665, 7759, 7771, 8084, 8087, 8149, 8406
\Bleech	18744, 20978	\capitalacute	15159	\CheckedBox	18798, 20985
\BOOKMARK	14226, 14305	\capitalbreve	15166	\Checkedbox	18796, 20417
\booknumberline	14210, 14215	\capitalcaron	15165	\checklatex	4, 7540, 7654, 7758, 8083, 8405
\bool	6917	\capitalcedilla	15156		
\bot	18329, 20291	\capitalcircumflex	15160		
\Bowtie	18393, 20959	\capitaldieresis	15162		
\bowtie	18391, 20313	\capitaldotaccent	15168		
\Box	18795, 20984	\capitalgrave	15158		
\box	6214, 6496, 8874, 9879, 11295, 11298	\capitalhungarumlaut	15163		
\boxast	19328, 20618	\capitalmacron	15167		
\boxbackslash	18538, 20376	\capitalnewtie	15170		
\boxbar	18778, 20410	\capitalogonek	15157		
\boxbox	19332, 20620				
\boxbslash	19326, 20617				
\boxcircle	19330, 20619				
\boxdot	18313, 20285				
\boxempty	18793, 20416				
\boxminus	18309, 20283				
\boxplus	18307, 20282				
\boxslash	19324, 20616				
\boxtimes	18311, 20284				
\brokenvert	15270, 20747				

\Checkmark	19044, 20497	\CleaningFF	18632, 20391	\CrossOutline	19067, 20508
\checkmark	19046, 21043	\CleaningP	18654, 20392	\cs	5037, 5042, 5046, 5055, 5059, 5068
\CheckmarkBold	19047, 20498	\CleaningPP	18656, 20393	\Cube	587
\checkpackage	9, 8148	\clickb	16219, 20851	\Cup	18424, 20327
\chi	16466, 19958	\clickc	16214, 20849	\cup	18019, 20155
\chiinferior	19971	\clickt	16156, 20833	\cupdot	18258, 20262
\ChoiceBox	5776	\clock	18504, 20362	\cupplus	18260, 20263
\ChoiceMenu	6153	\ClockLogo	18507, 20969	\curlyc	15986, 20790
\circ	17977, 20139	\Clocklogo	18506, 20968	\curlyeqprec	18443, 20335
\circeq	18137, 20206	\close@pdflink	8941, 8966, 8975, 9007, 9044, 9077, 9332	\curlyeqsucc	18447, 20337
\circlearrowleft	19194, 20566	\closedniomega	16105, 20821	\curlyesh	16153, 20832
\circlearrowright	19196, 20567	\closedrepepsilon	16018, 20797	\curlyvee	18407, 20320
\CircledA	18617, 20389	\closeout	14314	\curlywedge	18410, 20321
\circledast	18301, 20280	\Cloud	18784, 20412	\curlyyogh	16198, 20845
\circledbslash	19309, 21052	\ClowerTips	20514	\curlyz	16191, 20844
\circledcirc	18297, 20279	\clubsuit	18923, 18925, 21030	\CurrentBorderColor	8931, 8933, 8960, 8962, 8970, 8972, 8977, 10388, 10422, 10424, 10440, 10442, 10461, 10463, 10525, 10527, 10544, 10546
\circleddash	18305, 20281	\codeof	7823	\currentpdfbookmark	14286
\CircleShadow	19155, 20550	\Coffeecup	18803, 20419	\curu	16721
\circplus	19351, 20629	\coloncolonequals	19388, 20644	\curvearrowleft	17812, 20071
\citation	7793	\colonequals	18129, 20202	\curvearrowright	17814, 20072
\citeauthoryear	7859, 7865	\color@begingroup	8860, 9865	\CutLeft	19010, 21037
\citeN	7856	\color@endgroup	8867, 9872	\CutLine	18735, 20974
\CJK@char	943	\columnwidth	7473	\Cutline	18736, 20975
\CJK@charx	944	\comma@entry	5767, 5774, 5776	\Cutright	19011, 21038
\CJK@CJK	932	\comma@parse	5766	\CuttingLine	18732, 20394
\CJK@eight	1143, 1146, 1260	\complement	17928, 20117	\cyr	609, 3096, 3098, 3101, 3104, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3118, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133
\CJK@five	1143, 1145, 1260	\Conclusion	17879, 20896	\CYRA	16555, 16946, 16950
\CJK@four	1142, 1145, 1259	\cong	18073, 20178	\cyra	3098, 3105, 3107, 3112, 3115, 3120, 3121, 3127, 3131, 16622, 16948, 16952
\CJK@hundred	1209	\Congruent	18155, 20922	\CYRABHCH	16910, 16915
\CJK@hundredmillion	1172	\contentsline	8031, 8036, 8085, 8087	\cyrabhch	16912, 16918
\CJK@ignorespaces	942	\copy	5098, 5100, 5111, 5119, 8870, 9849, 9875	\CYRABHCHDSC	16914
\CJK@kern	930	\copyright	19880	\cyrabhchdsc	16917
\CJK@minus	1134	\Corresponds	18144, 20920	\CYRABHDZE	16980
\CJK@nine	1143, 1147, 1260	\corresponds	18143, 20919	\cyrabhdze	16982
\CJK@null	1236	\count@	959, 960, 961, 962, 1534, 1892, 3443, 3444, 3449, 3450, 5397, 5398, 5413, 5709, 5724, 5726, 5750, 5772, 5788, 10740, 10741, 10742, 10743, 10744, 10747	\CYRABHHA	16865
\CJK@one	1142, 1144, 1259	\Cross	19063, 20506	\cyrabhha	16867
\CJK@punctchar	945	\crossb	15740, 20764	\CYRAE	16954
\CJK@punctcharx	946	\CrossClowerTips	19080	\cyrae	16956
\CJK@seven	1143, 1146, 1260	\crossd	15504, 20756	\CYRB	16557
\CJK@six	1143, 1146, 1260	\CrossedBox	18802, 20987		
\CJK@ten	1144, 1145, 1146, 1147, 1224	\Crossedbox	18799, 20418		
\CJK@tenthousand	1157, 1178	\crossh	15553, 20760		
\CJK@thousand	1194	\CrossMaltese	19069, 20509		
\CJK@three	1142, 1145, 1259	\crossnilambda	15771, 20770		
\CJK@two	1142, 1144, 1259	\CrossOpenShadow	19065, 20507		
\CJK@zero	1142, 1160, 1177, 1181, 1197, 1212, 1234				
\CJKdigits	1019				
\CJKkern	931				
\CJKnumber	1018				
\cl@@ckpt	6956				
\CleaningA	18619, 20972				
\CleaningF	18630, 20390				

\cyrb	3112, 16624	\CYRHRDSN	16609	\cyrm	3101, 3105, 3131, 3132, 16647
\CYRBYUS	16745	\cyrhrdsn	16675, 16676, 20858	\CYRMDSC	16942
\cyrbyus	16747	\CYRI ...	16548, 16571, 16574, 16984, 16988	\cyrmdsc	16944
\CYRC	16600	\cyri 3098, 3101, 3105, 3111, 3116, 3118, 16638, 16641, 16718, 16986, 16990		\CYRN	16582
\cyrC	16667			\cyrn ...	3098, 3104, 3105, 3107, 3108, 3110, 3118, 3124, 3125, 16649
\CYRCH	16602, 17022	\CYRIE	16528	\CYRNDSC	16853
\cyrch .	3104, 3105, 3113, 16669, 17024	\cyrie	16698	\cyrndsc	16855
\CYRCHLDSC	16938	\CYRII	16533, 16536	\CYRNG	16857
\cyrchldsc	16940	\cyrii	16703, 16706	\cyrng	16859
\CYRCHRDSC	16896	\CYRIOTBYUS	16749	\CYRNHK	16934
\cyrchrdsc	16898	\cyriotbyus	16751	\cyrnhk	16936
\CYRCHVCRS	16901	\CYRIOTE	16733	\CYRNJE	16542
\cyrchvcrs	16904	\cyriote	16735	\cyrnje	16712
\CYRD	16563	\CYRIOTLYUS	16741	\CYRO	16584, 16992
\cyrd ...	3101, 3104, 3115, 3120, 3121, 16630	\cyriotlyus	16743	\cyro ...	3101, 3104, 3107, 3108, 3118, 3127, 3128, 3130, 3131, 3132, 16651, 16994
\CYRDJE	16524	\CYRISHRT	16573	\CYROMEGA	16725
\cyrdje	16694	\cyrishrt	16640	\cyromega	16727
\CYRDZE 15050, 15067, 16517, 16530		\CYRISHRTDSC	16797	\CYROMEGARND	16779
\cyrdze	16700	\cyrishrtdsc	16799	\cyromegarnd	16781
\CYRDZHE	16553	\CYRIZH	16765, 16770	\CYROMEGATITLO ...	16783
\cyrdzhe	16723	\cyrizh	16767, 16773	\cyromegatitlo	16785
\CYRE ..	16519, 16522, 16565, 16958	\CYRJE	16538	\CYROT	16787
\cyre ...	3098, 3104, 3105, 3118, 3130, 3131, 3132, 16632, 16689, 16692, 16960	\cyrje	16708	\cyrot	16789
\cyreref	17008	\CYRK	16546, 16576	\CYROTLD ...	16996, 17001
\CYREREV ...	16616, 17006	\cyrk ...	3107, 3108, 3110, 3124, 3125, 3127, 3128, 3129, 16643, 16716	\cyrotld	16998, 17004
\cyrerev	16683	\CYRKBEAK	16849	\CYRP	16586
\CYRERY	16611, 17030	\cyrkbeak	16851	\cyrp ...	3101, 3104, 3105, 3109, 3110, 3116, 3118, 3122, 3123, 3124, 3125, 16653
\cyrery 3096, 3098, 16678, 17032		\CYRKDSC	16835	\CYRpalochka	16920
\CYRF	16596	\cyrkdsc	16837	\CYRPHK	16861
\cyrf	16663	\CYRKHCERS	16845	\cyrphk	16863
\CYRFITA	16761	\cyrkhcrs	16847	\CYRPSI	16757
\cyrfita	16763	\CYRKHK	16926	\cyrpsi	16759
\CYRG	16526, 16561	\cyrkhk	16928	\CYRR	16588
\cyrg ...	3114, 16628, 16696	\CYRKOPPA	16791	\cyrr ...	3096, 3098, 3101, 3104, 3105, 3111, 3115, 3116, 3118, 3120, 3121, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 16655
\CYRGDSC	17026	\cyrkoppa	16793	\CYRRTICK	16805
\cyrgdsc	17028	\CYRKSI	16753	\cyrrtick	16807
\CYRGHCERS	16813	\cyrksi	16755	\CYRS	16590, 16870
\cyrghcrs	16815	\CYRKVCRS	16840	\cyrS ...	3101, 3104, 3107, 3108, 3111, 3126, 3127, 3128, 3129, 3133, 16657, 16873
\CYRGHK	16818	\cyrkvcrs	16843	\CYRSCHWA ...	16962, 16967
\cyrghk	16821	\CYRL	16578	\cyrschwA	16964, 16970
\CYRGUP	16809	\cyrl ...	3112, 3114, 3116, 3118, 16645	\CYRSDSC	16869, 16870
\cyrgup	16811	\CYRLDSC	16930		
\CYRH	16598	\cyrlldsc	16932		
\cyrh	16665	\CYRLJE	16540		
\CYRHDSC	16887	\cyrlje	16710		
\cyrhdsc	16889	\CYRLYUS	16737		
\CYRHHK	17034	\cyrlyus	16739		
\cyrhkh	17036	\CYRM	16580		

<code>\DefaultWidthofSubmit</code> . .	6217, 12682, 13285, 13658	<code>\delta</code>	16428, 19939	3662, 3663, 3666, 3667, 3670, 3671, 3672, 3675, 3676, 3682, 3683, 3684, 3685, 4011, 4012, 4013, 4014, 4015, 4016, 5439, 7287, 12555, 12617, 12855, 12862, 12872, 13156, 13219, 13512, 13578, 14393, 14420	
<code>\DefaultWidthofText</code>	6226, 12518, 13121, 13470	<code>\Denarius</code>	17653, 20883	<code>\documentclass</code>	2, 8744
<code>\define@key</code> . .	2373, 2375, 2419, 2434, 2437, 2440, 2448, 2451, 2461, 2464, 2467, 2484, 2496, 2498, 2501, 2518, 2522, 2528, 2531, 2534, 2537, 2540, 2543, 2546, 2571, 2628, 2634, 2753, 2879, 2895, 2905, 2908, 2915, 2944, 2963, 2966, 3311, 3377, 3389, 3404, 3421, 3424, 3428, 3456, 3461, 3465, 3468, 3475, 3487, 3494, 3504, 3507, 3510, 3514, 3530, 3540, 3547, 3558, 3571, 3588, 3678, 3687, 3717, 3723, 3729, 3735, 3741, 3746, 3752, 3758, 3764, 3770, 3803, 3810, 3901, 3902, 3915, 3922, 3932, 3973, 3974, 3977, 3980, 3983, 3986, 3989, 3992, 3995, 4018, 4132, 4135, 4881, 4910, 4916, 4928, 5391, 5479, 5535, 5837, 5842, 5855, 5883, 5926, 5929, 5932, 5936, 5939, 5943, 5946, 5950, 5954, 5958, 5961, 5965, 5968, 5971, 5974, 5977, 5997, 6013, 6016, 6019, 6022, 6025, 6028, 6058, 6061, 6064, 6067, 6086, 6092, 6106, 6111, 6117, 6134, 6139, 6145, 6749, 6760, 7039, 10819, 10825, 11327, 11329, 11332, 11335, 11337, 11339, 11348, 11356, 11363, 11365, 11367, 11369, 11371, 11373, 11382, 11392, 11394, 11396, 11397, 11403, 11412, 11414, 11416, 11418, 11420, 11422, 11424, 11426, 11428, 11430, 11432, 11434, 11436, 11438, 11440, 11442, 11443, 11444, 11445, 11446, 11447, 11448, 11449, 11450, 11451, 11452, 11453	<code>\DH</code>	14902, 15361	<code>\doteq</code>	18116, 20918
<code>\Deleatur</code>	17651, 20028	<code>\dh</code> .	14972, 15432, 15433, 20755	<code>\doteqdot</code>	18109, 20194
<code>\Delta</code>	16363, 19926	<code>\dhal</code>	19785	<code>\dotminus</code>	18114, 20196
		<code>\DiamondSolid</code>	20555	<code>\dotplus</code>	18048, 20167
		<code>\diameter</code>	18496, 20358	<code>\dots</code>	17967, 20134
		<code>\Diamond</code>	18768, 20981	<code>\dottimes</code>	19356, 20631
		<code>\diamond</code>	18766, 20405	<code>\doublebarwedge</code> .	19379, 20640
		<code>\diamonddots</code> . . .	17542, 19985	<code>\doublecap</code>	18423, 20962
		<code>\diamondsuit</code>	18920, 18922, 21029	<code>\doublecup</code>	18426, 20963
		<code>\digamma</code>	16499, 20857	<code>\doublesqcap</code>	19367, 21059
		<code>\dimen@</code>	1540, 1617, 1618, 1621, 1623, 4168, 4169, 4171, 4178, 4179, 5088, 5089, 5092, 5101, 5102, 5106, 5983, 5992, 6779, 6780, 8887, 8889, 10713, 10714, 10716, 11285, 11300, 11303, 11697, 11699, 11764, 11766, 11858, 11860, 12142, 12144	<code>\doublesqcup</code>	19372, 21060
		<code>\dimexpr</code>	470, 1298, 1920, 1922, 1930, 1935, 1938, 1940, 1954, 1956, 1959, 1960, 1967, 1970, 1973, 1974, 1975, 1976, 1986, 1991, 1999, 2003, 2008, 2018, 2021, 2026, 2029, 2034, 2035, 5992	<code>\doublevav</code>	17097
		<code>\ding</code>	586, 6033, 6036	<code>\doublevee</code>	19375, 20639
		<code>\DingObject</code>	13231	<code>\doublewedge</code> . . .	19373, 20638
		<code>\discretionary</code>	651	<code>\doubleyod</code>	17101
		<code>\div</code>	20731	<code>\DOWNarrow</code> . . .	18752, 20400
		<code>\divdot</code>	19355, 21058	<code>\Downarrow</code>	17880, 20096
		<code>\divide</code>	10741	<code>\downarrow</code>	20046
		<code>\divideontimes</code> . . .	18389, 20312	<code>\downarrowdownarrows</code>	17855, 20087
		<code>\Divides</code>	17969, 20135	<code>\downarrowdownharpoons</code> . . .	19276, 20599
		<code>\DividesNot</code>	17971, 20136	<code>\downharpoonleft</code>	17838, 20080
		<code>\DJ</code>	3186, 14903, 15499	<code>\downharpoonright</code>	17835, 20079
		<code>\dj</code>	3183, 3184, 15502	<code>\downmodels</code>	19492, 20691
		<code>\dish</code>	17809, 20070	<code>\downtherefore</code> . .	18043, 20911
		<code>\do</code>	960, 2391, 2396, 2401, 3528, 3560, 3561, 3562, 3563, 3618, 3619, 3620, 3621, 3622, 3623, 3626, 3627, 3628, 3629, 3630, 3631, 3634, 3635, 3638, 3639, 3640, 3641, 3642, 3645, 3646, 3647, 3648, 3649, 3652, 3653, 3654, 3655, 3656, 3659, 3660, 3661,	<code>\downuparrows</code> . .	17918, 20112
				<code>\downupharpoons</code>	19294, 20605
				<code>\downvdash</code>	18326, 20941
				<code>\dp</code>	5088, 5096, 5109, 6210, 6213, 7471, 9404, 9484, 9521, 9561, 11286, 11289, 11940, 12222, 13448
				<code>\dsbiological</code>	18968, 20468
				<code>\dschemical</code>	18966, 20467
				<code>\dscommercial</code> . . .	18970, 20469
				<code>\dsjuridical</code>	18964, 20466
				<code>\dsmedical</code>	18962, 20465
				<code>\dsmilitary</code>	18959, 20464
				<code>\dtimes</code>	19359, 20632
				<code>\dvipdfm@setdim</code>	13445, 13495, 13594, 13617, 13648, 13673, 13701, 13730
				<code>\dz</code>	16250, 20855

E		
\Earth	18856, 21005	
\earth	18854, 20435	
\ECIRCUMFLEX	19628, 19712, 19713, 19714, 19715, 19716	
\ecircumflex	19622, 19652, 19653, 19654, 19655, 19656	
\Ecommerce	17693, 20886	
\EdefEscapeName	3834, 3884, 9311, 10051, 10590, 11464, 12616, 12619, 13218, 13221, 13574, 13580	
\EdefEscapeString	761, 771	
\EdefUnescapeName	3835	
\EdefUnescapeString	756, 7952	
\egroup	650, 8867, 9872, 10321, 10977, 12802, 12894, 12919	
\EightAsterisk	19153, 20549	
\EightFlowerPetal	19131, 20539	
\EightFlowerPetalRemoved	19150, 20548	
\eighthnote	18938, 21031	
\eighthinferior	20008	
\EightStar	19110, 20529	
\EightStarBold	19112, 20530	
\EightStarConvex	19106, 20527	
\EightStarTaper	19104, 20526	
\eightsuperior	19992	
\einferior	20016	
\ejective	16202, 20846	
\ell	17664, 20031	
\em	570	
\emgma	16084, 20817	
\emph	549	
\empty	942, 3431	
\emptyset	17936, 20121	
\enc@html	5841, 5844	
\enc@update	509	
\END	1290, 1291, 1317, 1318, 1333, 1334, 1351, 1352, 1369, 1370, 1726, 1732, 1737, 1839, 1841, 9194, 9207, 9211, 9218, 9231, 9235	
\end	591, 21083	
\endeqnarray	7235, 7254, 7262	
\endequation	7191, 7222	
\endForm	5831	
\endinput	64, 2706, 2801, 4380, 4511, 8366, 10910, 12285, 14514	
\endlinechar	808, 829, 4749	
\endNoHyper	6343	
\EndPreamble	12288	
\endsubeqnarray	7266, 7273	
\eng	15632, 20762	
\engma	15633, 20763	
\ensuremath	635	
\Envelope	19026, 20489	
\enya	16088, 20819	
\epsdice	588, 20736	
\epsi	16007, 20795	
\epsilon	16430, 19940	
\eqcirc	18133, 20204	
\eqcolon	18051, 20168	
\eqdot	19384, 20642	
\eqnarray	7234, 7237, 7259	
\eqsim	18065, 20174	
\eqslantgtr	19423, 20660	
\eqslantless	19421, 20659	
\equal	7820	
\equalscolon	18131, 20203	
\equalsinferior	20012	
\equalsuperior	19996	
\equation	7190, 7200, 7204, 7213	
\equationautorefname	2970, 2988, 3006, 3024, 3042, 3060, 3078, 3096, 3097, 3136, 3154, 3172, 3190, 3208, 3226, 3244, 3262, 8603, 8607	
\equiv	18153, 20213	
\Equivalence	17885	
\er	16003, 20794	
\errmessage	3308	
\escapechar	493, 4334, 7280, 14253, 14431, 14482	
\esh	16143, 19913	
\EstimatedSign	17692, 20885	
\eta	16434, 19942	
\eTeX	535, 12293	
\eth	15433, 20755	
\Eur	17650, 20882	
\EURcr	17647, 20879	
\EurCr	17646, 20878	
\EURdig	17643, 20875	
\EurDig	17642, 20874	
\EURhiv	17645, 20877	
\EurHv	17644, 20876	
\EURtm	17649, 20881	
\EurTm	17648, 20880	
\evensidemargin	7970	
\ExecuteOptions	4183, 4184, 4188	
\exists	17932, 20119	
\exp	479, 485, 2314	
\ExplSyntaxOff	490, 2326, 5072, 6933	
\ExplSyntaxOn	232, 474, 2308, 5036, 6912	
\extrasvietnam	3363	
\extrasvietnamese	3355	
\EyesDollar	15184, 20740	
F		
\fa	19809	
\fallingdotseq	20198	
\fallingdotseq	18120	
\FancyVerbLineautorefname	2983, 3001, 3019, 3037, 3055, 3073, 3091, 3126, 3129, 3149, 3167, 3185, 3203, 3221, 3239, 3257, 3275, 8620	
\farsikaf	19851	
\farsiya	19855	
\fatha	19835	
\fatsemi	19349, 20628	
\Fax	19580, 20720	
\fax	17704, 20041	
\Faxmachine	19582, 21076	
\fbox	13084, 13087	
\fcdice	589, 20737	
\Female	18853, 21004	
\female	18847, 18850, 21001	
\FemaleFemale	18976, 20472	
\FemaleMale	18980, 20474	
\Field@addtoks	5905, 5937, 5940, 6112, 6135	
\Field@boolkey	5392, 5480, 5899, 5930, 5933	
\Field@toks	5903, 5904, 5906, 12794, 12811, 12822, 12833, 12843, 12860, 12878, 12886, 12891, 12907, 12916	
\Field@Width	5816, 5963	
\figureautorefname	2973, 2991, 3009, 3027, 3045, 3063, 3081, 3111, 3139, 3157, 3175, 3193, 3211, 3229, 3247, 3265, 8610	
\filename@area	5222	
\filename@base	5222	
\filename@ext	5219, 5220, 5222, 5223	
\filename@parse	5218	
\find@pdfink	8913, 8964, 8974	
\Finv	17694, 20036	
\Fire	19583, 20721	
\fivedots	19518, 20702	
\FiveFlowerOpen	19129, 20538	
\FiveFlowerPetal	19127, 20537	

<code>\fiveinferior</code>	20005	13563, 13928, 13961, 13989,	<code>\Fld@invisibletrue</code>	5499
<code>\FiveStar</code>	18786, 20413	14023, 14058, 14094, 14148	<code>\Fld@keystroke@code</code>	6074,
<code>\FiveStarCenterOpen</code> . .	19088,		13859, 13861	
20518		<code>\Fld@calculate@code</code> 6073, 12503,	<code>\Fld@listcount</code> . . .	12615, 12620,
<code>\FiveStarConvex</code> .	19096, 20522	13007, 13461, 13871, 13873	12623, 12628, 12633, 12638,	
<code>\FiveStarOpen</code> . .	18788, 20414	<code>\Fld@calculate@sortkey</code> . .	13217, 13222, 13237, 13243,	
<code>\FiveStarOpenCircled</code> . .	19086,	6107, 13016	13573, 13581, 13585, 13590,	
20517		<code>\Fld@cbsymbol</code> 5827, 6026, 13943	13601, 13606	
<code>\FiveStarOpenDotted</code> . .	19090,	<code>\Fld@charsize</code> 5817, 5818, 5975,	<code>\Fld@loc</code>	5927
20519		12603, 13205, 13561, 13945,	<code>\Fld@mappingname</code> .	5957, 5959,
<code>\FiveStarOutline</code> .	19092, 20520	14010, 14039, 14079, 14130	13842, 13844, 13915, 13917	
<code>\FiveStarOutlineHeavy</code> .	19094,	<code>\Fld@checkedfalse</code>	<code>\Fld@maxlen</code> .	5819, 5966, 14084
20521		5813	<code>\Fld@menulength</code> . .	5815, 5969,
<code>\FiveStarShadow</code> .	19098, 20523	<code>\Fld@checkequals</code> . .	12553, 12557, 12603, 12854,	
<code>\fivesuperior</code>	19989	5917, 12556,	12855, 12858, 13154, 13158,	
<code>\Flag</code>	18954, 20462	12618, 12863, 12873, 13157,	13205, 13510, 13514, 13561	
<code>\flap</code>	16131, 20830	13220, 13513, 13579	<code>\Fld@name</code> 5951, 12515, 12547,	
<code>\flapr</code>	16130, 20829	<code>\Fld@choices</code>	12651, 12729, 12791, 12796,	
<code>\flat</code>	18943, 20457	. . . . .	12807, 12808, 12819, 12820,	
<code>\Fld@@additionalactions</code>	13858,	. . . . .	12829, 12830, 12838, 12859,	
13901, 13905		<code>\Fld@color</code> . .	12876, 12884, 12889, 12904,	
<code>\Fld@@DingDef</code> 6033, 6036, 6055		5821, 6068, 13946,	12913, 13118, 13148, 13255,	
<code>\Fld@additionalactions</code> .	13858,	14011, 14040, 14080	13333, 13467, 13504, 13624,	
13949, 13978, 14013, 14048,		<code>\Fld@default</code> .	13710, 13837, 13910	
14083, 14118, 14150		5731, 5734, 5736,	<code>\Fld@norotatefalse</code>	5515
<code>\Fld@align</code> . .	5820, 6020, 13927,	6017, 12516, 12532, 12548,	<code>\Fld@norotatetrue</code>	5514
13988, 14057		12588, 12616, 12730, 12792,	<code>\Fld@noviewfalse</code>	5518
<code>\Fld@altname</code> 5953, 5955, 13838,		12810, 12824, 12832, 12839,	<code>\Fld@noviewtrue</code>	5519
13840, 13911, 13913		12865, 12875, 12905, 12915,	<code>\Fld@nozoomfalse</code>	5511
<code>\Fld@annotflags</code>	5599,	13119, 13136, 13149, 13190,	<code>\Fld@nozoomtrue</code>	5510
5601, 13922, 13955, 13983,		13218, 13334, 13468, 13485,	<code>\Fld@onblur@code</code> .	6076, 13879,
14017, 14052, 14088, 14124		13505, 13546, 13574, 13711,	13881	
<code>\Fld@annotnames</code> 13909, 13924,		14041, 14045, 14046, 14081	<code>\Fld@onclick@code</code> .	6070, 6146,
13957, 13985, 14019, 14054,		<code>\Fld@DingDef</code> .	13977	
14090, 14126		6026, 6029, 6031	<code>\Fld@onenter@code</code> 6079, 13891,	
<code>\Fld@bcolor</code> .	5822, 6062, 13939,	<code>\Fld@disabledfalse</code>	13893	
13941, 14004, 14006, 14033,		5814	<code>\Fld@onexit@code</code> .	6080, 13895,
14035, 14061, 14073, 14075		<code>\Fld@export</code> .	13897	
<code>\fld@bcolor</code>	13992	5544, 5547, 5554,	<code>\Fld@onfocus@code</code> 6075, 13875,	
<code>\Fld@bordercolor</code>	5823,	5846	13877	
6065, 13935, 13937, 13963,		<code>\Fld@findlength</code> . .	<code>\Fld@onmousedown@code</code> 6077,	
13971, 13973, 13991, 14000,		12842, 12853	13883, 13885	
14002, 14029, 14031, 14060,		<code>\Fld@flags</code> 5613, 5615, 5626, 5628,	<code>\Fld@onmouseup@code</code> . .	6078,
14069, 14071, 14096, 14104,		5642, 5644, 5674, 5676,	13887, 13889	
14106, 14132, 14140, 14142		5699, 5701, 13926, 13959,	<code>\Fld@pageobjref</code> .	12494, 13092,
<code>\Fld@bordersep</code>	5824, 6014	13987, 14021, 14056, 14092,	13103, 13458, 13793, 13923,	
<code>\Fld@borderstyle</code>		14128	13956, 13984, 14018, 14053,	
. .	5826, 5998, 5999, 6000,	<code>\Fld@format@code</code> .	14089, 14125	
6010, 13928, 13961, 13989,		6071, 13863,	<code>\Fld@printfalse</code>	5507
14023, 14058, 14094, 14148		13865	<code>\Fld@printtrue</code>	5506
<code>\Fld@borderwidth</code>		<code>\Fld@getmethodfalse</code>	<code>\Fld@radiosymbol</code> . .	5828, 6029,
. .	5825, 5978, 6204, 6207,	5866	14037	
6208, 6211, 6212, 12604,		<code>\Fld@getmethodtrue</code>	<code>\Fld@rotation</code>	5829,
12605, 13206, 13207, 13562,		5868	6059, 13931, 13933, 13962,	
		<code>\Fld@height</code> 5972, 12519, 12537,		
		12551, 12606, 12626, 12643,		
		12683, 12703, 12733, 12743,		
		13122, 13142, 13152, 13208,		
		13236, 13250, 13286, 13309,		
		13337, 13349, 13471, 13487,		
		13508, 13564, 13576, 13610,		
		13659, 13682, 13714, 13722		
		<code>\Fld@hiddenfalse</code>		
		5502		
		<code>\Fld@hiddenttrue</code>		
		5503		
		<code>\Fld@invisiblefalse</code>		
		5498		

19730, 19735, 19740, 19745, 19750	\hbox . . 1532, 1538, 1544, 2249, 3442, 3448, 5092, 5106, 5257, 5259, 5963, 6198, 6199, 6200, 6201, 7965, 8860, 9405, 9415, 9485, 9499, 9522, 9537, 9562, 9577, 9848, 9865, 10941, 11289, 11303, 11941, 11951, 12223, 12238, 12931, 13486, 13575, 13609, 13639, 13667, 13696, 13721, 14526	\hexstar 18993, 20477
\H@@footnotemark 7331, 7348, 7412, 7502, 7509, 7521, 7532	\hc@currentHref 7586	\hfill . . . 6198, 6199, 6200, 6201, 7727, 7760
\H@@footnotetext 7330, 7340, 7372, 7411, 7450, 7510, 7524, 7532	\HCode . . 12783, 12785, 12796, 12805, 12817, 12825, 12827, 12858, 12864, 12869, 12874, 12888, 12893, 12897, 12900, 12909	\Hfootnoteautorefname . . 8604
\H@mpfootnotetext 7338, 7350, 7352, 7413	\hdotfor 17505, 19978	\hinferior 20020
\H@definecounter . . 8092, 8094	\headerps@out 6792, 11602, 11613, 11708, 11722, 11783, 11792, 11805, 11819, 11866, 11984, 12101, 12300	\hoffset 7966
\H@endeqnarray . . . 7235, 7255	\Heart 18918, 21027	\hookb 15978, 20787
\H@endequation . . . 7191, 7228	\heartsuit . 18916, 18919, 21028	\hookd 15992, 20792
\H@endsubeqnarray . 7266, 7274	\hebalef 17042	\hookg 16025, 20799
\H@eqnarray 7234, 7240	\hebayin 17078	\hookh 16045, 20804
\H@equation 7190, 7215	\hebbet 17044	\hookheng 16049, 20806
\H@item 6889, 6895, 7716, 7741	\hebdalef 17038, 17048	\hookleftarrow . . . 17795, 20064
\H@newctr 8100, 8102	\hebfinalkaf 17062	\hookreveysion . . 16014, 20796
\H@old@part 14580, 14588	\hebfinalmem 17068	\hookrightarrow . 17797, 20065
\H@old@chapter . 14550, 14559	\hebfinalnun 17072	\hphantom 585
\H@old@sect 14598, 14609, 14618	\hebfinalpe 17080	\href 624, 4864, 6369
\H@old@spart . . . 14590, 14596	\hebfinaltsadi 17084	\href@ 4867, 4870, 4875
\H@old@ssect . . . 14536, 14541	\hebgimel 17046	\href@split 4875, 4876
\H@refstepcounter . . 6906, 6916, 7166, 7214, 7309, 7570	\hebhe 17050	\hsize 7473
\H@subeqnarray . . . 7265, 7269	\hebhet 17056	\hskip . . 1543, 1630, 2294, 2295, 4861, 6204, 12931
\ha 19821	\hebkafe 17064	\hslash 17660, 20029
\Haa 19779	\heblamed 17066	\hspace 620, 7826, 7827
\Halb 19562, 21074	\hebmeme 17070	\hss . . . 5093, 5105, 7974, 14531
\halfnote 19560, 20711	\hebnun 17074	\ht 5097, 5101, 5110, 6206, 6209, 9413, 9488, 9497, 9504, 9525, 9535, 9542, 9565, 9575, 9582, 11285, 11949, 12236, 13446
\halign 632	\hebpe 17082	\htrtaild 19975
\hamza 19755	\hebqof 17088	\Huge 572
\HandCuffLeft . . . 18805, 20420	\hebresh 17090	\huge 576
\HandCuffRight . . 18807, 20421	\hebsamekh 17076	\Hurl 4950, 4952, 4954
\HandLeft 18809, 20422	\hebshin . . 17092, 17093, 20860	\hv 15758, 20768
\HandRight 18812, 20423	\hebsin 17093, 20860	\hv@pdf@char . . . 14322, 14387, 14388, 14389, 14390
\HaPa 19547, 20705	\hebtav 17095	\hvtex@buffer . . . 10632, 10636, 10644, 10647, 10656, 10660, 10676
\HAR@checkcitations . . . 7836	\hebtet 17058	\hvtex@gettoken . 10631, 10645, 10649, 10658, 10662
\HAR@citetoaux 7792	\hebtsadi 17086	\hvtex@gettoken@ 10632, 10634
\HAR@tempa 7837, 7838, 7839, 7840, 7841, 7842	\hebvav 17052	\hvtex@par@dimension . 10627, 10668
\hardsign 16676, 20858	\hebyod 17060	\hvtex@par@direction . . 10628, 10671
\harvardcite 7786, 7823	\hebzayin 17054	\hvtex@par@duration . . 10629, 10663
\harvarditem 7811	\Hermaphrodite . . 18982, 20475	\hvtex@par@motion 10630, 10665
\hateq 18141, 20208	\hexagon 18558, 20384	\hvtex@param@dimension 10640, 10669, 10687, 10690
\hausaB 15744, 19887		\hvtex@param@direction 10641, 10672, 10698, 10706
\hausab 15979, 20788		
\hausad 15748, 19888		
\hausad 15993, 20793		
\hausak 15759, 19889		
\hausak 15763, 20769		
\hb@xt@ 5091, 5104		
\hbar 15550, 19886		

<code>\hvtex@param@duration</code> 10642, 10664, 10711, 10713	<code>\Hy@ActiveCarriageReturn</code> 4783, 4786	<code>\Hy@BorderArrayPatch</code> . 11343, 11346, 11611, 12099
<code>\hvtex@param@motion</code> . 10643, 10666, 10687, 10694	<code>\Hy@AllowHyphens</code> 4857, 10915, 10947, 11272	<code>\Hy@breaklinks@unsupported</code> 2507, 10893
<code>\hvtex@parse@trans</code> 10616, 10638	<code>\Hy@AlphNoErr</code> 6999, 7012, 7014	<code>\Hy@breaklinksfalse</code> 416
<code>\hvtex@produce@trans</code> .. 10677, 10683	<code>\Hy@AnchorName</code> .. 4988, 4990, 4993, 4995, 5020, 5022, 5026, 5031, 5033	<code>\Hy@breaklinksunhbox</code> . 11239, 11293
<code>\hvtex@token</code> ... 10635, 10646, 10652, 10659, 10664, 10667, 10670, 10672	<code>\Hy@appendixstring</code> 6994, 7016	<code>\Hy@CatcodeWrapper</code> ... 4631, 4688, 4737
<code>\hvtex@trans@code</code> 10620, 10621, 10622, 10623, 10624, 10625, 10626, 10639, 10685, 10686, 10688, 10690, 10692, 10694, 10696, 10698, 10700, 10701, 10702, 10703, 10704, 10706	<code>\Hy@AtBeginDocument</code> 345, 2555, 2616, 2702, 2797, 3392, 4165, 4234, 4251, 4376, 4382, 4507, 4670, 4734, 6276, 6392, 6825, 7783, 8455, 8855, 9246, 9860, 10381, 11818, 11864, 12948, 12981	<code>\Hy@chapapp</code> 6995, 7016, 7048, 14554, 14565
<code>\hvtex@trans@effect@Blinds</code> 10620	<code>\Hy@AtBeginDocumentHook</code> 346, 351, 357, 358	<code>\Hy@chapterstring</code> .. 6990, 6992, 6995, 7047
<code>\hvtex@trans@effect@Box</code> 10621	<code>\Hy@AtEndOfPackage</code> 348, 796, 3356, 3364, 3371, 4390, 4398, 4622	<code>\Hy@CheckOptionValue</code> .. 2386, 2423
<code>\hvtex@trans@effect@Dissolve</code> 10622	<code>\Hy@AtEndOfPackageHook</code> 349, 352, 354, 355	<code>\Hy@CJKbookmarksfalse</code> .. 418
<code>\hvtex@trans@effect@Glitter</code> 10623	<code>\Hy@author</code> 6435, 6439	<code>\Hy@cjkpu</code> 953, 955, 976
<code>\hvtex@trans@effect@R</code> .. 10626	<code>\Hy@babelnormalise</code> 4965, 4967	<code>\Hy@CleanupFile</code> ... 5255, 9013, 9951, 10476, 11537
<code>\hvtex@trans@effect@Split</code> 10624	<code>\Hy@backout</code> . 4743, 6328, 6332, 7682	<code>\Hy@colorlink</code> 3384, 4691, 4699, 4703, 8856, 8936, 9006, 9043, 9076, 9331, 9355, 9378, 9409, 9422, 9450, 9466, 9491, 9507, 9529, 9546, 9569, 9586, 9861, 9940, 9980, 10013, 10043, 10070, 10398, 10420, 10490, 10516, 10551, 10584, 10603, 10945, 11218, 11220, 11887, 11910, 11945, 11958, 12174, 12196, 12231, 12244
<code>\hvtex@trans@effect@Wipe</code> 10625	<code>\Hy@backreffalse</code> ... 412, 2935, 2957, 4388	<code>\Hy@colorlinksfalse</code> 3381
<code>\hvtex@trans@par</code> 10659, 10663, 10665, 10668, 10671	<code>\Hy@backreftrue</code> ... 2928, 2932, 2954	<code>\Hy@ColorList</code> 3527, 3528
<code>\hvtex@trans@params</code> .. 10653, 10655, 10679	<code>\Hy@BeginAnnot</code> ... 9890, 9907, 9949, 9987, 10020, 10050	<code>\Hy@CounterExists</code> . 6853, 6866, 6870
<code>\Hy@@CleanupFile</code> . 5257, 5259	<code>\Hy@bibcite</code> 7705, 7709	<code>\Hy@currentbookmarklevel</code> 14171, 14181, 14182, 14188, 14195, 14287, 14290, 14295, 14299
<code>\Hy@@DefNameKey</code> . 2416, 2418	<code>\Hy@bookmarksdepth</code> ... 3427, 3432, 3444, 3450, 14165	<code>\Hy@debugfalse</code> 408
<code>\Hy@@escapeform</code> 13803, 13816, 13822	<code>\Hy@bookmarksnumberedfalse</code> 413	<code>\Hy@debugtrue</code> 407
<code>\Hy@@SectionAnchor</code> ... 14521, 14524	<code>\Hy@bookmarksopenfalse</code> . 414	<code>\Hy@defaultbp</code> 5978, 5980
<code>\Hy@temp</code> .. 3472, 3474, 6082, 6084	<code>\Hy@bookmarkstrue</code> 415	<code>\Hy@defaultbpAux</code> . 5982, 5985
<code>\Hy@@VersionCheck</code> .. 274, 303	<code>\Hy@bookmarkstype</code> 3462, 3464, 7998, 14176	<code>\Hy@defaultdriver</code> .. 4492, 4524, 4534, 4546
<code>\Hy@abspage</code> . 6530, 6616, 6732, 6818	<code>\Hy@boolkey</code> . 2342, 2435, 2438, 2441, 2462, 2465, 2468, 2499, 2502, 2519, 2526, 2529, 2532, 2535, 2538, 2541, 2544, 2547, 2629, 2906, 2909, 2964, 3378, 3390, 3405, 3422, 3425, 3466, 3469, 3688, 3975, 3978, 3981, 3984, 3987, 3990, 3993, 4001, 4133, 4136, 6750	<code>\Hy@DefFormAction</code> 5838, 5840
<code>\Hy@Acrobatmenu</code> .. 4279, 4320, 9309, 10049, 10591, 11465		<code>\Hy@DefNameKey</code> .. 2415, 3559, 3617, 3625, 3633, 3637, 3644, 3651, 3658, 3665, 3669, 3674, 3681, 4010
<code>\Hy@activeanchorfalse</code> 4747, 8955, 9357, 9372, 9451, 9461, 9777, 10306, 10323, 10399, 10412, 10927, 11889, 11904, 12176, 12190		<code>\Hy@DEST</code> 11240, 11307
<code>\Hy@activeanchortrue</code> 8951, 9354, 9368, 9449, 9458, 9773, 10302, 10320, 10397, 10409, 10917, 11886, 11900, 12173, 12186		<code>\Hy@destlabelfalse</code> 419
		<code>\Hy@DestName</code> 8900, 8907

\Hy@DestRename . . . 5320, 5345, 5349	4484, 4490, 4495, 4497, 4501, 4504, 4515, 4518, 4521, 4524, 4533, 4534, 4546, 4548, 4556, 4558, 4560, 4562	\Hy@ExchangeRightParenthesis 8663, 8669
\Hy@DisableOption	\Hy@dth@currentHref 7311, 7314	\Hy@false 2213, 2352, 2920, 2956, 5888
.. 2371, 4269, 4270, 4271, 4273, 4278, 4395, 4566, 4567, 4568, 4569, 4570, 4571, 4572, 4573, 4574, 4575, 4576, 4577, 4578, 4579, 4580, 4581, 4582, 4583, 4584, 4585, 4630, 4683, 4708, 4709, 4745, 4746, 5376, 6280, 6281, 6282, 6283, 6284, 6285, 6286, 6287, 6288, 6289, 6290, 6291, 6292, 6293, 6294, 6295, 6296, 6297, 6298, 6299, 6300, 6301, 6302, 6303, 6459, 6684, 7537, 8187, 8312, 8313, 8779, 8883, 9178, 9179, 9180, 9181, 9182, 9183, 9184, 9185, 9186, 9187, 9188, 9304, 9613, 9614, 9615, 9616, 9617, 9618, 9619, 9620, 9621, 9622, 9623, 9624, 9888, 10106, 10107, 10108, 10109, 10110, 10111, 10112, 10113, 10114, 10115, 10116, 10117, 10235, 10383, 10843, 10844, 10845, 10846, 10847, 10848, 10849, 10850, 10851, 10852, 10853, 10854, 11100, 11101, 11102, 11103, 11104, 11105, 11106, 11107, 11108, 11109, 11110, 11111, 11693, 12007, 12008, 12009, 12010, 12011, 12012, 12013, 12014, 12015, 12016, 12017, 12018	\Hy@dviErrMsg . . . 2666, 2668, 2671, 2677, 2690	\Hy@finalfalse 376
\Hy@DistillerDestFix 7939, 10858, 10860	\Hy@dviModetrue . . 2675, 2680	\Hy@finaltrue 375
\Hy@draftfalse 375	\Hy@dvipdfmxOutlineOpentru 4592, 4599	\Hy@FirstPage 4290
\Hy@drafttrue 376	\Hy@EndAnnot 9896, 9943, 9983, 10016, 10046, 10073	\Hy@FirstPageHook
\Hy@driver . . . 458, 2512, 2699, 2711, 2723, 2726, 2738, 2744, 2749, 2763, 2773, 2778, 2784, 2791, 2794, 2820, 2836, 2843, 2849, 2860, 2874, 4400, 4403, 4411, 4414, 4418, 4421, 4423, 4427, 4433, 4437, 4440, 4444, 4449, 4453, 4456, 4460, 4464, 4468, 4471, 4475, 4478, 4480,	\Hy@endcolorlink . . 3385, 4695, 4700, 4704, 8865, 8942, 9355, 9392, 9416, 9424, 9450, 9474, 9495, 9509, 9533, 9548, 9573, 9588, 9870, 9898, 10398, 10471, 10492, 10518, 10553, 10586, 10605, 10972, 11232, 11887, 11926, 11952, 11960, 12174, 12210, 12235, 12246	.. 6488, 6502, 6503, 6507, 6510, 6790, 6791, 11612, 11721, 11791, 12100, 12299
	\Hy@EndWrap 4632, 4634, 4635, 4668	\Hy@float@caption . . 7576, 7626, 7640
	\Hy@Error 246, 262, 268, 291, 2559, 2688, 2714, 2730, 2765, 2804, 2811, 2822, 2828, 2866, 4304, 4918, 5188, 5539, 5663, 5859, 5891, 6087, 6140, 12657, 12710, 13262, 13316, 13631, 13689	\Hy@float@currentHref
	\Hy@Escapeform . 12536, 12622, 12641, 12670, 12691, 12717, 12742, 13140, 13226, 13248, 13275, 13296, 13324, 13347, 13492, 13584, 13613, 13645, 13669, 13697, 13727, 13797, 13827, 13834	.. 7630, 7633, 7635, 7641, 7643, 7645
	\Hy@Escapestring 13794, 13861, 13865, 13869, 13873, 13877, 13881, 13885, 13889, 13893, 13897, 13943, 13977, 14037, 14081, 14082, 14114	\Hy@footnote@currentHref . . .
	\Hy@EveryPageAnchor . . 7938, 7981	.. 6275, 7360, 7365, 7380, 7385, 7388, 7400, 7402, 7441, 7483, 7486
	\Hy@EveryPageBoxHook	\Hy@FormObjects 13040, 13355, 13410, 13420, 13738, 13789
	.. 6487, 6491, 6495, 7980, 10203, 10732, 11022	\Hy@frenchlinksfalse 3383
	\Hy@EveryPageHook 6486, 6490, 6682, 9239	\Hy@Gin@setfile . . . 8182, 8184
	\Hy@ExchangeLeftParenthesis 8653, 8659	\Hy@GlobalStepCount 456, 6616, 7078, 7102, 7956
		\Hy@gtemp 784, 785, 4335, 4341, 4343, 5736, 5737, 5741, 5742, 5753, 5767, 7417, 7422, 8677, 8679, 13854, 13856
		\Hy@href 4867, 4869
		\Hy@href@nextactionraw
		.. 4904, 4927, 4929, 4930, 4932, 4937, 4941, 4943, 9002, 9039, 9072, 9327, 9936, 9976, 10009, 10039, 10066, 10435, 10505, 10573, 11562, 11591
		\Hy@href@page 4882, 4884, 4888, 4889, 4891, 4898, 4901, 9035, 9971, 11558
		\Hy@hyperfiguresfalse 421
		\Hy@hyperfootnotetrue . . 423
		\Hy@hyperindextrue 424
		\Hy@hypertextnamesfalse . 2173
		\Hy@hypertextnametrue . . 425
		\Hy@IfStringEndsWith . . 5223, 5235
		\Hy@implicittrue 426
		\Hy@Info 249, 2360, 4346, 4348, 4351, 4353, 4356, 4358, 4361, 4363, 4366, 4368, 4615, 4621, 4696, 4701,

4705, 4826, 4853, 5446, 6237, 6239, 6242, 6244, 6247, 6249, 6252, 6254, 6257, 6259, 6262, 6264, 6267, 6269, 7784, 8003, 8020	\Hy@MaybeStopNow 2787, 4189, 4192	\Hy@pdf@minorversion 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 6785, 8705, 8735, 8757, 8774, 8778
\Hy@InfoNoLine 250, 4371, 4373, 4558, 8701, 12153	\Hy@Message . 251, 2701, 2796, 4375, 4506, 10327, 10331, 10334, 10337, 10340, 10343, 10346, 10349, 12484, 12755, 12759, 12762, 12765, 12768, 12771, 12774, 12777, 12787, 12924, 13415	\Hy@pdfafalse 454 \Hy@pdfcenterwindowfalse 417 \Hy@pdfdisplaydoctitlefalse 453 \Hy@pdfescapeformfalse . . 420 \Hy@pdffitwindowfalse . . . 422 \Hy@pdfmajorminor@version 2655, 8692, 8711
\Hy@IsNotEmpty . . 5327, 5328, 5351	\Hy@naturalnamesfalse . . . 430 \Hy@nestingfalse 431 \Hy@newline@author 6480 \Hy@newline@title 6479 \Hy@next . . . 6632, 6642, 6647, 14564, 14573, 14576	\Hy@pdfmajorversion 2655, 2663, 8734, 8756, 8772, 8777 \Hy@pdfmarkerrorfalse . . 11192 \Hy@pdfmarkerrortrue . . 11376, 11385
\Hy@LastPage 4293 \Hy@level 14177, 14179, 14190, 14195, 14196, 14197, 14227	\Hy@nextfalse 8197 \Hy@NextPage 4284 \Hy@nexttrue . 8198, 8199, 8200 \Hy@NIL 4208, 4221, 4224 \Hy@number 3912, 3919 \Hy@numberline . 14172, 14209, 14210, 14211, 14212	\Hy@pdfmenubartrue 429 \Hy@pdfminorversion 2655, 8689, 8690, 8735, 8757, 8773, 8778
\Hy@levelcheck . . 14178, 14193 \Hy@linkcounter 460, 462, 7078, 7079, 7102, 7103	\Hy@ObsoletePaperOption 2444, 2452	\Hy@pdfnewwindowfalse . . 433 \Hy@pdfnewwindowsetfalse 432, 3998
\Hy@linkfileprefix . . 3506, 5207, 9395, 10271, 11930, 12213	\Hy@ocgcolor 8859, 8873, 9864, 9878	\Hy@pdfnewwindowsettrue 4000, 4906
\Hy@LinkMath . . 10936, 10938, 10943, 10975, 11264, 11266, 11271, 11273, 11279, 11281	\Hy@ocgcolorlinksfalse . . . 3382, 4678	\Hy@pdfnewwindowtrue . 4907 \Hy@pdfpagelabelsfalse . . 6517 \Hy@pdfpagelabelstrue . . . 435 \Hy@pdfstringdef . . . 783, 5711, 5719, 5924, 6017, 6023
\Hy@linktoc . 2470, 2472, 2480, 2482, 2492, 8049	\Hy@Org@chapter 14562, 14577 \Hy@OrgMakeLabel 12268, 12275 \Hy@OutlineName 14443, 14495 \Hy@OutlineRerunCheck 14311, 14410, 14489	\Hy@pdfstringfalse . . 436, 6305 \Hy@pdfstringtrue . . . 637, 6277 \Hy@pdftoolbartrue 442 \Hy@pdfusetitlefalse 450 \Hy@pdfversion 2653 \Hy@pdfwindowuitrue 452 \Hy@pkg 4207, 4214 \Hy@plainpagesfalse 437 \Hy@PrevPage 4287 \Hy@ProvideTheHCounter 6946
\Hy@linktoc@all 2478 \Hy@linktoc@none 2475 \Hy@linktoc@page . . 2470, 2477, 2480	\Hy@PageAnchorSlide . . . 7898, 7936, 7949	\Hy@ps@CR 11773, 11780, 11785, 11786, 11803, 11824, 11825, 11826, 11832, 11839, 11846, 11853
\Hy@linktoc@section 2472, 2476, 2482	\Hy@PageAnchorSlidesPlain 7885, 7935, 7944	\Hy@psdextrafalse 441 \Hy@pstringB 9094, 9099, 10148, 10160, 11165, 11181, 12072, 12088
\Hy@linktocpagefalse 427 \Hy@localanchornamefalse . 428 \Hy@LookForParentCounter 6965 \Hy@LT@currentHref 7168, 7179 \Hy@LT@footnotetext 7440, 7449 \Hy@make@anchor . 8111, 8117, 8123	\Hy@pageanchortrue 434 \Hy@pagecounter 461, 463, 7956, 7958	\Hy@pstringD 9015, 9037, 9953, 9973, 11539, 11560 \Hy@pstringdef 8624, 8899, 8923, 8980, 9014, 9015, 9049, 9050,
\Hy@make@df@tag@@ 8115, 8130 \Hy@make@df@tag@@@ . . 8121, 8131	\Hy@pageheight . . . 4179, 11723, 11820	
\Hy@MakeCurrentHref . . 7041, 7090, 7103	\Hy@param . . 4209, 4210, 4213, 4214, 7046, 7047, 7048, 7075, 7079	
\Hy@MakeCurrentHrefAuto 7101, 7110, 8112, 14156, 14538, 14554, 14565, 14592, 14606	\Hy@pdf@majorminor@version . .. 2654, 4275, 5713, 8697, 8711, 8738, 8759, 13849	
\Hy@MakeRemoteAction . 4887, 9016, 9954, 11540	\Hy@pdf@majorversion 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2654, 6784, 8705, 8734, 8756, 8774, 8777	
\Hy@maketitle@end . 7513, 7518, 7520		
\Hy@maketitle@optarg . . . 7511, 7516		
\Hy@Match 307, 309, 2882, 3516, 3574, 3591, 3937, 4028, 4034, 4064, 4065, 4068, 4079, 4094, 4932, 6000		

9094, 9715, 9916, 9952, 9953, 9988, 9989, 10021, 10148, 10419, 10497, 10560, 10561, 11165, 11374, 11383, 11512, 11538, 11539, 11570, 11571, 12072, 13820, 14442, 14458	10928, 11890, 11905, 12177, 12191	11936, 11948, 12218, 12234, 12271, 12278
\Hy@pstringDest . . . 8899, 8900, 9715, 9762, 11374, 11375, 11379, 11383, 11384, 11388	\Hy@RestoreSavedSpaceFactor . . . 2233, 9403, 9483, 9520, 9560, 11939, 12221	\Hy@scanauthor . . . 6433, 6438 \Hy@scanoptauthor . . 6433, 6434 \Hy@scanopttitle . . . 6424, 6425 \Hy@scantitle 6424, 6429 \Hy@secnum@part 14582, 14583, 14585
\Hy@pstringF 9012, 9013, 9014, 9031, 9049, 9065, 9070, 9950, 9951, 9952, 9968, 9988, 10002, 10007, 10475, 10476, 10480, 10560, 10567, 10571, 11536, 11537, 11538, 11555, 11570, 11586, 11589	\Hy@RestoreSpaceFactor 2224, 2250, 2255, 9402, 9410, 9417, 9482, 9492, 9500, 9519, 9530, 9538, 9559, 9570, 9578, 10942, 10978, 11270, 11278, 11305, 11938, 11946, 11953, 12220, 12232, 12239, 12276, 12280	\Hy@SectionAnchorHref . . 634, 14519, 14543, 14611 \Hy@SectionHShift 14518, 14527, 14539, 14607 \Hy@setbreaklinks . . 2504, 2508, 2520, 8685, 9705
\Hy@pstringName 14442, 14443, 14458, 14472	\Hy@ReturnAfterElseFiFiEnd 466, 1499	\Hy@SetCatcodes <u>181</u> , 231, 4187 \Hy@SetNewWindow 4004, 9033, 9067, 9975, 10004, 10568, 11554, 11585
\Hy@pstringP 9050, 9070, 9989, 10007, 10561, 10571, 11571, 11589	\Hy@ReturnEnd . 464, 465, 466, 1511, 1610	\Hy@setouterhbox 11238, 11269 \Hy@setpagesizetrue 439 \Hy@setpdfborder 3607, 8929, 8985, 9020, 9054, 9314, 9927, 9960, 9995, 10027, 10057, 10439, 10460, 10483, 10509, 10543, 10577, 10596
\Hy@pstringURI . . . 8980, 8998, 10021, 10035, 10419, 10431, 10497, 10501, 11512, 11524	\Hy@safe@activesfalse <u>467</u> , 5156, 8529	\Hy@setpdfhighlight 3565, 8930, 8986, 9021, 9055, 9315, 9928, 9961, 9996, 10028, 10058
\Hy@PutCatalog . . . 6678, <u>6686</u> , <u>6807</u>	\Hy@safe@activetrue <u>467</u> , 4324, 4779, 4816, 4824, 4852, 4969, 5313, 5323, 7045, 8042, 8421, 8518, 12951, 13010, 14403, 14430	\Hy@setpdfversiontrue . . . 2641 \Hy@setref@link 8377, 8380 \Hy@SlidesFormatOptionalPage . 6546, 7884, 7903, 7907 \Hy@SlidesPage 6553, 7917, 7918, 7924, 7926, 7929, 7932 \Hy@StartlinkName . 8927, 8938 \Hy@StepCount <u>455</u> , 6593, 12557, 12620, 12855, 13158, 13222, 13514, 13581, 14291, 14296, 14372
\Hy@raisedlink 2237, 6941, 7112, 7133, 7134, 7135, 7138, 7180, 7218, 7223, 7226, 7247, 7363, 7383, 7454, 7481, 7614, 7693, 7717, 7722, 7742, 8113, 11600, 11706, 11980, 12151, 14157, 14528, 14555, 14566, 14593	\Hy@SaveCatcodeSettings . <u>806</u> , 855, 865, 880, 883	\Hy@stoppedearlyfalse . . . 4194, 6852 \Hy@stoppedearlytrue 4191, 6849 \Hy@StringLocalhost 5253, 5254, 5269 \Hy@tabularx@hook 7410, 7418 \Hy@temp 665, 672, 2450, 2455, 2456, 2457, 2458, 2459, 2460, 3471, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3528, 3529, 3530, 3533, 3535, 3538, 3548, 3551, 3552,
\Hy@raiselinksfalse . . 438, 7785	\Hy@saved@currentHref . . 7398, 7401	
\Hy@RemoveDurPageAttr 9218, <u>9231</u>	\Hy@saved@footnotemark 7507, 7522	
\Hy@RemovePercentCr . . 4799, 4803, 4808	\Hy@saved@footnotetext . 7508, 7525	
\Hy@RemoveTransPageAttr 9193, <u>9207</u>	\Hy@saved@hook . . . 6463, 6475 \Hy@saved@refstepcounter 6934	
\Hy@reserved@a . . . 5123, 7238, 7268, 12790, 12840, 12903	\Hy@SavedSpaceFactor 2220, 2222, 2227, 2228, 2234, 12273	
\Hy@RestoreCatcodes <u>205</u> , 4185, 4565	\Hy@SaveLastskip <u>2258</u> , 8897, 9346, 9361, 9443, 9455, 9712, 10294, 10310, 10390, 10403, 10898, 10912, 11879, 11893, 12166, 12180	
\Hy@RestoreCatcodeSettings 850, 857, 867, 882, 885	\Hy@SaveSavedSpaceFactor 2232, 9401, 9481, 9518, 9558, 11937, 12219	
\Hy@RestoreLastskip <u>2258</u> , 8901, 9358, 9373, 9452, 9462, 9764, 10307, 10324, 10400, 10413, 10908,	\Hy@SaveSpaceFactor 2221, 2241, 2252, 9400, 9412, 9480, 9494, 9517, 9532, 9557, 9572, 10940, 10976, 11262, 11274, 11282,	

3553, 3554, 3555, 3556,	8264, 8291, 8714, 8725,	\Hy@toclevel . . 8008, 8012, 8025
3572, 3585, 3589, 3604,	8726, 8727, 8728, 8731,	\Hy@toclinkend 8037, 8053,
3771, 3772, 3775, 3778,	8737, 8740, 8767	8061, 8068, 8072, 8074
3781, 3806, 3814, 3815,	\Hy@temp@B 1484, 1485	\Hy@toclinkstart . . . 8036, 8053,
3816, 3817, 3818, 3819,	\Hy@temp@menu 9311,	8061, 8068, 8072, 8074
3820, 3821, 3822, 3996,	9326, 10051, 10065, 10590,	\Hy@true 2212, 2348, 2350, 2950,
3997, 4020, 4021, 4067,	10593, 11464, 11473	2952, 5885
4068, 4075, 4079, 4311,	\Hy@tempa . . 2343, 2345, 2347,	\Hy@undefinedname
4315, 4316, 4317, 4318,	2348, 2350, 2352, 2354,	. . 8912, 8919, 8921, 9903,
4406, 4408, 4411, 4416,	2357, 2360, 2361, 2916,	9912, 9914, 10416, 10451,
4418, 4421, 4435, 4437,	2917, 2918, 2920, 2921,	10453, 10534, 10536, 11029,
4442, 4444, 4451, 4453,	2923, 2924, 2926, 2930,	11042, 11044
4458, 4460, 4466, 4468,	2934, 2945, 2947, 2949,	\Hy@unicodefalse 447,
4473, 4475, 4478, 4547,	2950, 2952, 2956, 4785,	764, 774, 2566, 2567, 2575,
4548, 5436, 5440, 5441,	4786, 4797, 4801, 4971,	3748, 3754, 7948, 13851
5452, 5536, 5537, 5538,	4975, 5135, 5137, 5843,	\Hy@unicodetrue . . . 443, 2567,
5540, 5544, 5856, 5857,	5844, 5884, 5885, 5888,	6743, 6757
5858, 5860, 5864, 5865,	5892, 6622, 6624, 6662,	\Hy@UseMaketitleInfos . . 6481,
5998, 6010, 6081, 6097,	6664, 6818, 6820, 7282,	9151, 9594, 10078, 10832,
6098, 6099, 6100, 6101,	7284, 7285, 7288, 7289,	11061, 11988
6102, 6103, 6104, 6110,	7290, 7313, 7315, 7571,	\Hy@UseMaketitleString . 6460,
6116, 6122, 6123, 6124,	7576, 7581, 7997, 7998,	6482, 6483
6125, 6126, 6127, 6128,	8016, 8017, 8023, 9379,	\Hy@UseNameKey
6129, 6130, 6131, 6132,	9380, 10275, 10428, 10429,	. . 2428, 9116, 9117, 9118,
6172, 6173, 6180, 6181,	11911, 11912, 12197, 12198,	9119, 9120, 9121, 9122,
6188, 6189, 6573, 6576,	14175, 14176, 14199, 14201,	9123, 9142, 9664, 9665,
6585, 6587, 6591, 6595,	14219, 14220, 14228, 14252,	9666, 9667, 9668, 9669,
6639, 6641, 6949, 6950,	14254, 14255, 14257, 14258	9670, 9671, 9692, 10127,
6971, 7194, 7200, 7491,	\Hy@tempb	10128, 10129, 10130, 10131,
7497, 8056, 8057, 8065,	. . 5136, 5138, 5159, 6623,	10132, 10133, 10134, 10167,
8066, 8267, 8269, 8273,	6624, 6663, 6664, 14200,	10792, 10793, 10794, 10795,
8304, 8305, 8306, 8321,	14201, 14228	10796, 10797, 10798, 10799,
8322, 8713, 8716, 8717,	\Hy@tempcolor . . 10954, 10956,	11144, 11145, 11146, 11147,
8733, 8752, 9109, 9138,	10969, 11033, 11035, 11047	11148, 11149, 11150, 11151,
9140, 9634, 9639, 9645,	\Hy@TempPageAnchor . . 7887,	11174, 12051, 12052, 12053,
9649, 9652, 9657, 9688,	7943, 7953, 7957, 7973	12054, 12055, 12056, 12057,
9690, 10120, 10163, 10165,	\Hy@Test@Alph 7029, 7058	12058, 12081
11063, 11066, 11070, 11071,	\Hy@Test@alph 7020, 7054	\Hy@varioref@undefined . 7145,
11077, 11078, 11084, 11114,	\Hy@testname 8915, 8916, 8921,	7149, 8524
11119, 11125, 11129, 11132,	8923, 8924, 8935, 9908,	\Hy@VerboseAnchor
11137, 11170, 11172, 11244,	9909, 9914, 9916, 9918,	. . 4849, 8898, 9347, 9362,
11245, 11249, 11340, 11341,	9935, 10447, 10448, 10453,	9444, 9456, 9713, 10295,
11349, 11350, 11454, 11455,	10457, 10530, 10531, 10536,	10311, 10391, 10404, 10899,
12021, 12026, 12032, 12036,	10540, 11038, 11039, 11044,	10913, 11880, 11894, 12167,
12039, 12044, 12077, 12079,	11055	12181
13011, 13023, 13802, 13803,	\Hy@texhtfalse 440	\Hy@verbosefalse 408, 451
14440, 14446, 14454, 14469	\Hy@texhttrue 2696, 4401	\Hy@VerboseGlobalTemp 4825,
\Hy@temp@A 697,	\Hy@theorem@refstepcounter .	4826, 4827, 4828, 4832
698, 1483, 1485, 1496, 1498,	. . . . . 7307, 7324	\Hy@VerboseLinkInfo . . . 4832,
1503, 1504, 1507, 3807,	\Hy@TheSlideOptionalPage 7902,	4833, 4836, 4843
3809, 4208, 4221, 4224,	7906, 7911, 7920	\Hy@VerboseLinkStart
6966, 6969, 6970, 6971,	\Hy@title 6426, 6430	. . . . . 4821, 8958, 8968,
6972, 8216, 8217, 8218,	\Hy@tocdestname . . 8036, 8044,	9377, 9429, 9465, 9477,
8225, 8253, 8254, 8255,	8046	9905, 10251, 10274, 10418,

10523, 10931, 11031, 11909,
 11965, 12195, 12252
 \Hy@VerboseLinkStop 4837, 8943
 \Hy@verbosetrue 407
 \Hy@VersionCheck . 259, 4562,
 19862
 \Hy@VersionChecked . 258, 301,
 4559, 4561
 \Hy@vt@PutCatalog 6715, 6717
 \Hy@VTeXversion . . 6695, 6707,
 10479, 10609, 10739, 14324
 \Hy@WarnHTMLFieldOption .
 . 5910, 5944, 5947, 6118
 \Hy@Warning 247,
 332, 1451, 2365, 2381, 2406,
 2486, 2594, 2599, 2853,
 2861, 2886, 2899, 3396,
 3440, 3519, 3580, 3599,
 3783, 3830, 3838, 3959,
 4082, 4105, 4115, 4123,
 4674, 4893, 4936, 5132,
 5139, 5279, 5493, 5848,
 5911, 6003, 6753, 6768,
 7989, 8505, 8554, 8917,
 9746, 9750, 9910, 10449,
 10532, 10820, 10826, 11040,
 11377, 11386, 14184, 14202
 \Hy@WarningNoLine 248,
 285, 2445, 2510, 2523, 2621,
 3491, 3544, 3694, 3799,
 4172, 4267, 4413, 4422,
 4439, 4455, 4470, 4479,
 6518, 6709, 6832, 7999,
 8748, 11201
 \Hy@WarningPageBorderColor
 . . . 3541, 3543, 3545
 \Hy@WarningPageColor . 3488,
 3490, 3492
 \Hy@WarnOptionDisabled 2377,
 2380
 \Hy@WarnOptionValue . . 2358,
 2364, 2937, 2959
 \Hy@wrapper@babel 4322, 4340
 \Hy@WrapperDef
 . . 4332, 8893, 9345, 9360,
 9442, 9454, 9711, 10293,
 10309, 10389, 10402, 10897,
 10911, 11878, 11892, 12165,
 12179
 \Hy@writebookmark 2217, 8009,
 14161, 14302
 \Hy@xspace@end
 . . 4232, 4237, 4241, 4246,
 4249, 4254, 4255, 4256,
 4258, 4259, 4260, 4261,
 4262, 6317, 6318, 6320,
 6323, 6325, 6326, 6327,
 6331, 6334, 6337, 6339,
 6340, 6341, 8974, 9006,
 9043, 9076, 9422, 9493,
 9508, 9531, 9547, 9571,
 9587, 9945, 9982, 10015,
 10045, 10072, 10255, 10265,
 10491, 10517, 10552, 10585,
 10604, 11272, 11280, 11947,
 11958, 12233, 12245, 12277
 \HyAnn@AbsPageLabel . 13091,
 13098, 13139, 13225, 13247,
 13274, 13295, 13323, 13346
 \HyAnn@Count . . 13096, 13097,
 13099, 13100, 13101, 13104,
 13106, 13108
 \HyC@cmd 87, 109, 122
 \HyC@check 68, 71, 74
 \HyC@checkcommand 50, 57, 59
 \HyC@checkFailed 146, 157
 \HyC@checkItem . 132, 133, 134,
 135, 138
 \HyC@checklong 45, 53
 \HyC@checkOk 144, 154
 \HyC@checkPackage . 12, 16, 18
 \HyC@cmd . 62, 75, 87, 95, 118,
 131
 \HyC@date . . 11, 15, 23, 29, 31
 \HyC@DeclareRobustCommand
 114
 \HyC@def 125
 \HyC@defcmd 47, 54, 93
 \HyC@doCheck 99, 130
 \HyC@edef 125
 \HyC@getDate 12, 14
 \HyC@meaning 152, 160
 \HyC@nc@default 103, 105
 \HyC@nc@noopt . . 88, 91, 103,
 112, 123, 127
 \HyC@nc@opt 88, 101, 123
 \HyC@newcommand 86
 \HyC@next 48, 55, 60, 83
 \HyC@noValue 80, 81, 82, 85, 139
 \HyC@optcmd 107, 111
 \HyC@org@cmd 76
 \HyC@org@optcmd 80, 111
 \HyC@org@robustcmd . . 81, 120
 \HyC@org@robustoptcmd . . 82
 \HyC@package 10, 22, 28, 34, 37,
 38
 \HyC@param 78, 96, 102
 \HyC@robustcmd 115, 120, 121,
 122
 \HyC@star 67, 70, 94
 \HyC@string 131, 152, 155, 158
 \HyC@Toks 79, 90, 96, 106, 126
 \HyCnt@LookForParentCounter
 6953, 6965
 \HyCnt@ProvideTheHCounter .
 6937, 6946
 \HyColor@FieldBColor . . 6062,
 6065
 \HyColor@FieldColor . . . 6068
 \HyColor@HyperrefBorderColor
 3531, 3549
 \HyColor@HyperrefColor
 . . 3476, 3495, 3496, 3497,
 3498, 3499, 3500, 3501
 \HyColor@UseColor . 4693, 8862,
 8873, 9867, 9878
 \HyField@@AddToFields 13004,
 13026
 \HyField@@PDFChoices . 5731,
 5732, 5747
 \HyField@@SetFlag . 5426, 5428
 \HyField@@UseFlag . 5416, 5418
 \HyField@ABD@AuxAddTo-
 CoFields 12949,
 13001
 \HyField@AddCoField . . 12959,
 12972, 12975
 \HyField@AddToFields . 12495,
 12543, 12634, 12648, 12677,
 12698, 12724, 12749, 12937,
 13003, 13143, 13238, 13252,
 13279, 13304, 13328, 13351,
 13459, 13499, 13602, 13621,
 13653, 13677, 13705, 13734
 \HyField@AdvanceAnnotCount
 12488, 12533, 12624,
 12642, 12667, 12692, 12718,
 12739, 13452, 13489, 13586,
 13614, 13642, 13670, 13698,
 13724
 \HyField@afields . 12933, 12992,
 12993, 12995, 13049
 \HyField@AfterAuxOpen 12948,
 12990, 13027
 \HyField@AnnotCount . 12486,
 12487, 12489, 12492, 13450,
 13453, 13456
 \HyField@AuxAddToCoFields .
 12947, 12987, 13001,
 13015

\HyField@AuxAddToFields . . .	12685, 12705, 12734, 13130,	\HyInfo@Addons . . . 3879, 3895,
. . . . 12946, 12984, 12991,	13164, 13167, 13186, 13257,	9175, 10103, 11093, 11097
13030	13288, 13311, 13338, 13479,	\HyInfo@AddonUnsupportedtrue
\HyField@cofields 12934, 12953,	13520, 13523, 13542, 13626,	. . . 9592, 10818, 11986
12954, 12974, 12976, 13050,	13661, 13684, 13715	\HyInfo@do . . . 3827, 3860, 3883
13052	\HyField@TheAnnotCount . . .	\HyInfo@GenerateAddons 3877,
\HyField@FlagsAnnot 5586, 5605,	. . . . 12491, 12500, 12509,	9152, 10079, 11062
5619, 5632, 5648, 5680	12539, 12628, 12645, 12673,	\HyInfo@Key . 3835, 3836, 3854,
\HyField@FlagsCheckBox 5618,	12695, 12721, 12745, 13455,	3856, 3857, 3860, 3863,
12737, 13342, 13719	13460, 13463, 13494, 13591,	3870, 3884, 3888
\HyField@FlagsChoice . . . 5679,	13616, 13647, 13672, 13700,	\HyInfo@KeyEscaped 3834, 3835
12596, 13198, 13554	13729	\HyInfo@tmp 3844, 3854
\HyField@FlagsPushButton 5604,	\HyField@UseFlag	\HyInfo@trapped@false . . 3775,
12665, 12688, 12715, 13270,	. . 5415, 5556, 5557, 5558,	3794
13291, 13321, 13640, 13664,	5559, 5560, 5561, 5562,	\HyInfo@trapped@true . . . 3772,
13694	5563, 5566, 5567, 5568,	3793
\HyField@FlagsRadioButton . .	5569, 5572, 5573, 5574,	\HyInfo@trapped@unknown 3778,
5631, 12592, 13194, 13550	5577, 5588, 5589, 5590,	3795
\HyField@FlagsSubmit . . 5552,	5591, 5592, 5593, 5594,	\HyInfo@TrappedUnsupported
12689, 13292, 13665	5595, 5596, 5607, 5608,	. 3796, 3800, 9595, 10833,
\HyField@FlagsText 5647, 12530,	5609, 5621, 5622, 5623,	11989
13134, 13483	5634, 5635, 5636, 5637,	\HyInfo@Value 3848, 3851
\HyField@NeedAppearancesfalse	5639, 5650, 5651, 5652,	\HyLang@addto 3279, 3295,
. 5876, 5889	5653, 5654, 5655, 5656,	3313, 3355, 3363
\HyField@NeedAppearancetrue	5657, 5668, 5671, 5682,	\HyLang@afrikaans 2969
. . . 5879, 5882, 5886	5683, 5684, 5685, 5687,	\HyLang@catalan 3153
\HyField@NewBitsetFlag . 5384,	5689, 5690, 5693, 5696	\HyLang@danish 3243
5387, 5395	\HyInd@@@wrrindex . 8212, 8215,	\HyLang@DeclareLang . . . 3293,
\HyField@NewFlag	8246, 8252	3322, 3323, 3324, 3325,
. . 5382, 5458, 5459, 5460,	\HyInd@@hyperpage 8319, 8329	3326, 3327, 3328, 3329,
5461, 5462, 5463, 5464,	\HyInd@@wrrindex . . 8207, 8208	3330, 3331, 3332, 3333,
5465, 5466, 5467, 5468,	\HyInd@DefKey 8265, 8279,	3334, 3335, 3336, 3337,
5469, 5470, 5471, 5472,	8292, 8301	3338, 3339, 3340, 3341,
5473, 5474, 5475, 5476,	\HyInd@EncapChar . 2967, 4182,	3342, 3343, 3344, 3345,
5477, 5482, 5483, 5484,	8202	3346, 3347, 3348, 3349,
5485, 5486, 5487, 5488,	\HyInd@hyperpage . 8316, 8318,	3350, 3351, 3352, 3353
5489, 5490, 5523, 5525,	8325	\HyLang@dutch 3207
5526, 5528, 5529, 5531,	\HyInd@key . . 8266, 8270, 8281,	\HyLang@english 2987
5532, 5533, 5534	8294, 8306	\HyLang@french 3005
\HyField@NewFlagOnly . 5386,	\HyInd@org@wrrindex 8206, 8210,	\HyLang@german 3023
5524, 5527, 5530	8220, 8226, 8228, 8231	\HyLang@greek 3189
\HyField@NewOption 5383, 5389	\HyInd@pagelink . . . 8334, 8340,	\HyLang@italian 3041
\HyField@PDFFlagWarning .	8342, 8345	\HyLang@magyar 3059
. . 5492, 5500, 5504, 5508,	\HyInd@ParenLeft . . 8189, 8217,	\HyLang@norsk 3225
5512, 5516, 5520	8254, 8291	\HyLang@portuges 3077
\HyField@PDFChoices . . 5704,	\HyInd@ParenRight . 8190, 8218,	\HyLang@russian 3095
12640, 13245, 13608	8225, 8255, 8264	\HyLang@spanish 3135
\HyField@PrintFlags	\HyInd@removespaces . . . 8348,	\HyLang@swedish 3261
. . 5433, 5579, 5597, 5611,	8351, 8361	\HyLang@vietnamese 3171, 3355,
5624, 5640, 5672, 5697	\HyInfo@AddonHandler . . 3825,	3363
\HyField@SetFlag . . 5425, 5565,	3828	\HyLinguex@OrgB . . . 788, 792
5571, 5576, 5610, 5638	\HyInfo@AddonList . 3858, 3859,	\HyLinguex@OrgC . . . 789, 793
\HyField@SetKeys . 5808, 12527,	3893, 3900	\HyLinguex@OrgD . . . 790, 794
12563, 12566, 12585, 12653,		

\HyLinguex@Restore . 791, 804, 858, 868
\HyNew@float@makebox . 7627, 7650
\HyOpt@CheckDvi 2684, 2737, 2743, 2748, 2772, 2777, 2783, 2835, 2842, 2848, 2873
\HyOpt@CustomDriver . . . 283, 2894, 2897, 4489, 4556
\HyOpt@DriverFallback 2878, 2881, 2882, 2890, 4523, 4528
\HyOpt@DriverType 4488, 4491, 4525, 4535, 4537, 4555, 4558
\HyOrg@addtoreset . 8136, 8138, 8167
\HyOrg@appendix . . 6998, 7017
\HyOrg@author 6423, 6436, 6440
\HyOrg@elt 6951, 6957
\HyOrg@float@makebox . . 7628, 7649
\HyOrg@hyperpage . 8192, 8194, 8195
\HyOrg@make@df@tag@@ 8128
\HyOrg@make@df@tag@@@ 8129
\HyOrg@maketitle . . 7505, 7512, 7517
\HyOrg@subequations 7297, 7302
\HyOrg@title . . 6422, 6427, 6431
\HyOrg@TX@endtabularx 7409
\HyOrg@url 4949
\HyPat@NonNegativeReal 3575, 3576, 3577, 3578, 3594, 3596, 3929, 3940, 3941, 3942, 3949, 3952, 3953, 3954, 3955
\HyPat@ObjRef 4933, 4934, 4947, 8686, 9706, 10894
\hyper@@anchor . . . 4253, 4959, 4961, 4993, 4995, 5031, 5033, 5276, 6318, 6333, 6349, 7359, 7364, 7379, 7384, 7452, 7455, 7482, 7612, 7615, 7632, 7888, 7943, 7953, 7958
\hyper@@link . 4819, 4877, 4983, 5012, 5123, 7701, 7787, 7788, 7789, 7837, 7839, 7841, 8382, 8397, 8515
\hyper@@normalise . 4788, 4792, 4796
\hyper@anchor 5303, 6321, 6335, 6398, 6406, 8946, 9345, 9442, 9769, 10309, 10389, 10897, 11878, 12165
\hyper@anchorend . . 4241, 4249, 4256, 6304, 6323, 6337, 6352, 6942, 7114, 7181, 7224, 7226, 7248, 7271, 7695, 7720, 7723, 7743, 7816, 8113, 8953, 9370, 9460, 9776, 10304, 10411, 10919, 11902, 12188, 14157, 14303, 14529, 14556, 14567, 14594
\hyper@anchorstart 4255, 6304, 6322, 6336, 6351, 6942, 7113, 7181, 7218, 7248, 7271, 7693, 7718, 7723, 7743, 7816, 8113, 8949, 9360, 9454, 9772, 10293, 10402, 10911, 11892, 12179, 14157, 14303, 14529, 14556, 14567, 14594
\hyper@chars 4813, 8981, 9350, 9364, 9384, 9406, 9420, 9434, 9514, 9554, 10260, 10281, 10297, 10314, 10394, 10406, 10498, 11513, 11896, 11916, 11942, 11956, 11970, 12183, 12202, 12225, 12242, 12257
\hyper@currentanchor . . 10916, 10925, 10948, 10965
\hyper@currentlinktype . 10949, 10953, 10957
\hyper@destlabel@hook . . 5319, 5326
\hyper@hash . 4765, 4766, 4814, 5199, 5211, 5228, 5231, 6271, 10254
\hyper@image 4955, 4956, 9432, 10556, 11026, 11968, 12255
\hyper@last 6412, 6417
\hyper@link 4254, 5147, 6319, 6320, 6334, 6344, 6350, 8967, 9428, 9476, 9944, 10250, 10522, 11030, 11964, 12251
\hyper@link@ . 4261, 5124, 5130, 6317, 6331, 6357
\hyper@linkend 4241, 4249, 4258, 6325, 6339, 6354, 7404, 7687, 7690, 8037, 8966, 9390, 9473, 9943, 9945, 10286, 10469, 10951, 11924, 12208
\hyper@linkfile 4260, 5224, 6327, 6341, 6356, 9010, 9394, 9552, 9947, 10270, 10473, 11534, 11928, 12212
\hyper@linkstart 4257, 6324, 6338, 6353, 7402, 7683, 7690, 8036, 8957, 9376, 9464, 9904, 9945, 10273, 10417, 10930, 11908, 12194
\hyper@linkurl 4259, 4954, 5199, 5206, 5227, 5231, 6326, 6340, 6355, 8978, 9395, 9397, 9430, 9512, 10018, 10258, 10271, 10495, 10557, 11027, 11510, 11929, 11933, 11966, 12213, 12215, 12253
\hyper@livelink 6319, 6344
\hyper@makecurrent 6938, 7043, 7167, 7216, 7245, 7270, 7310, 7399, 7588, 7642
\hyper@n@rmalise . . 4780, 4784
\hyper@nat@current 7684
\hyper@nat@anchorend . . . 7695
\hyper@nat@anchorstart . . 7692
\hyper@nat@linkbreak 7689
\hyper@nat@linkend 7686
\hyper@nat@linkstart 7681
\hyper@newdestlabel 5311, 5333, 5372, 5378, 5380
\hyper@normalise . . 4183, 4188, 4757, 4867, 4870, 4951, 4953, 4955, 4977, 5838
\hyper@pageduration 9214, 9241, 10192, 10205, 10722, 10734, 11005, 11024
\hyper@pagetransition . . . 9190, 9240, 10181, 10204, 10611, 10733, 10988, 11023
\hyper@quote 6273, 9352, 9366, 9381, 9386, 9407, 9421, 9435, 10254, 10264, 10277, 10300, 10318, 11884, 11898, 11913, 11919, 11943, 11957, 11971, 12171, 12184, 12199, 12204, 12227, 12243, 12258
\hyper@readexternallink . 5153, 5164
\hyper@refstepcounter . . . 6924, 6928, 6936

\hyper@tilde . 4774, 4775, 4776, 6272	\HyPL@@@CheckThePage . 6619, 6621	\HyPsd@@@UTFviii@four 1969, 1972
\hyperbaseurl . 3503, 3504, 6368	\HyPL@Alph 6538	\HyPsd@@AppendItalcorr 1513
\hypercalcbp 469, 469	\HyPL@alph 6539	\HyPsd@@@autoref . . 1369, 1370
\hypercalcbpdef 472	\HyPL@arabic 6535	\HyPsd@@@autorefname . . 1390, 1393
\hyperdef 4985, 6370	\HyPL@CheckThePage . . 6570, 6618	\HyPsd@@@CJKdigits 1234, 1236, 1239
\HyperDestLabelReplace . 5363, 5370, 5373	\HyPL@Entry 6820, 6828, 6836, 6838	\HyPsd@@@CJKnumber 1135, 1137, 1140, 1193, 1208, 1221, 1223, 1227
\HyperDestNameFilter 4164, 4853, 5044, 5057, 5070, 5370, 8899, 8924, 9352, 9366, 9386, 9430, 9715, 9917, 10254, 10264, 10282, 10300, 10318, 10395, 10407, 10456, 10539, 11374, 11383, 11884, 11898, 11919, 11966, 12171, 12184, 12204, 12253, 14381, 14442, 14458	\HyPL@EveryPage . 6558, 6682	\HyPsd@@@ConvertToUnicode 1841
\HyperDestRename . 5343, 5361, 5374	\HyPL@Format 6634, 6635, 6636, 6637, 6638, 6650	\HyPsd@@@ding 2106, 2110, 2121
\HyperFirstAtBeginDocument . . 6395, 6397, 6413, 6416	\HyPL@found 6633, 6640, 6644, 6651, 6661, 6663	\HyPsd@@@GetNextTwoTokens 1839
\hyperget 5036	\HyPL@Labels 6529, 6673, 6674, 6676, 6678, 6729, 6730, 6831, 6839, 6840	\HyPsd@@@GlyphProcessWarning 1699, 1702
\hypergetpageref 7107	\HyPL@LastNumber 6533, 6589, 6612	\HyPsd@@@hspace . . . 1290, 1291
\hypergetref 7106	\HyPL@LastPrefix . . 6534, 6583, 6614	\HyPsd@@@LetCommand . 1414, 1435
\HyperGlobalCurrentHref 7064, 7066, 7074, 7075, 7079, 7082, 7086, 7093, 7094, 7098	\HyPL@LastType . . 6532, 6574, 6613	\HyPsd@@@nameref . . 1351, 1352
\hyperimage 4955, 8184	\HyPL@page . 6552, 6561, 6564, 6570, 6579	\HyPsd@@@pageref . . 1333, 1334
\hyperindexformat 8191	\HyPL@Prefix 6579, 6581, 6583, 6597, 6600, 6602, 6614, 6628, 6666	\HyPsd@@@ProtectSpacesFi 1458, 1464
\hyperlink 4818, 6371, 8357	\HyPL@Roman 6536	\HyPsd@@@ref 1317, 1318
\hyperlinkfileprefix . 3506, 3507, 3508, 12157	\HyPL@roman 6537	\HyPsd@@@RemoveBraces . 1481
\HyperLocalCurrentHref 7082, 7084, 7091, 7092, 7093, 7094, 7096	\HyPL@SetPageLabels . . . 6672, 6737, 6834	\HyPsd@@@RemoveBracesFi 1478, 1481
\hyperpage . . 6377, 8192, 8193, 8195, 8315	\HyPL@SlidesOptionalPage 6545, 6549, 6554	\HyPsd@@@RemoveCmdPrefix 1656, 1659
\HyperRaiseLinkDefault . 2219, 2246	\HyPL@SlidesSetPage . . . 6540, 6542, 6562, 6569	\HyPsd@@@ReplaceFi 1726, 1732, 1737
\HyperRaiseLinkHook 2218, 2247	\HyPL@StorePageLabel . . 6597, 6599, 6669, 6727, 6815	\HyPsd@@@UTFviii@four . . 1953, 1958
\HyperRaiseLinkLength . . 2245, 2246, 2249	\HyPL@thisLabel . . 6526, 6528, 6560, 6564, 6565	\HyPsd@add@accent . 512, 1279
\hyperref 4964, 6373, 8453, 8469, 8478, 8500	\HyPL@Type 6567, 6574, 6578, 6596, 6604, 6613, 6627, 6665	\HyPsd@AfterCountRemove 1533, 1613
\hyperrefundefinedlink . . 4998, 5009	\HyPL@Useless 6670, 6676	\HyPsd@AfterDimenRemove 1539, 1616
\hypersetup . . 2587, 2632, 3333, 3811, 4184, 6367	\HyPsd@@@@autoref . 1372, 1374, 1377	\HyPsd@AfterSkipRemove 1545, 1628
\hypertarget 4957, 6372	\HyPsd@@@@CJKdigits . . . 1242, 1245, 1253	\HyPsd@AMScsfix 619, 1300, 1302
\HyPL@@@CheckThePage 6643, 6661	\HyPsd@@@@nameref 1354, 1356, 1359	\HyPsd@AppendItalcorr . 1497, 1504, 1513
	\HyPsd@@@@pageref . 1336, 1338, 1341	\HyPsd@autoref 629, 1369
	\HyPsd@@@ref . 1320, 1322, 1325	\HyPsd@autorefname 1381, 1387
		\HyPsd@CatcodeWarning 1549, 1573, 1576, 1579, 1582, 1640
		\HyPsd@Char 1843
		\HyPsd@CharOctByte . . . 1863, 1865, 1868, 1877, 1882

\HyPsd@CharSurrogate . . . 1857, 1874
\HyPsd@CharTwoByte . . . 1855, 1862
\HyPsd@CheckCatcodes . . . 683, 1523
\HyPsd@CJK@Unicode . . . 1017, 1021
\HyPsd@CJKActiveChars . . . 957, 972
\HyPsd@CJKdigit . . . 1246, 1256
\HyPsd@CJKdigits . . . 1019, 1232
\HyPsd@CJKhook 636, 928, 939
\HyPsd@CJKhook@bookmarks 934, 968
\HyPsd@CJKhook@unicode 936, 1016
\HyPsd@CJKnumber 1018, 1132
\HyPsd@CJKnumberFour 1150, 1154, 1158, 1171, 1175, 1179, 1185
\HyPsd@CJKnumberLarge 1163, 1170
\HyPsd@CJKnumberThree 1191, 1195, 1201
\HyPsd@CJKnumberTwo 1206, 1210, 1216
\HyPsd@ConvertToUnicode 752, 1789
\HyPsd@DecimalToOctal . . . 949, 980
\HyPsd@DecimalToOctalFirst 1023, 1059
\HyPsd@DecimalToOctalSecond . . . 1024, 1033, 1096, 2125, 2131, 2134
\HyPsd@DefCommand 666, 667, 668, 669, 1403
\HyPsd@DieFace . . . 587, 588, 589, 2046, 20736, 20737
\HyPsd@DieFaceLarge . . . 2054, 2063
\HyPsd@ding 586, 2096
\HyPsd@DisableCommands 906, 908
\HyPsd@DoConvert . . . 1791, 1801
\HyPsd@DoEscape 1815
\HyPsd@doxspace . . . 724, 1762
\HyPsd@empty . . . 709, 711, 715, 716, 718, 726, 733
\HyPsd@end . . . 683, 687, 1462, 1472, 1478, 1481, 1526, 1534, 1540, 1546, 1599, 1606, 1613, 1616, 1628
\HyPsd@endWithElse . . . 1269, 1278
\HyPsd@EscapeTeX . . . 763, 766, 773, 1744
\HyPsd@expand@outfvii . . . 1891, 1898, 1904
\HyPsd@fi 1454, 1460, 1464, 1470
\HyPsd@GetNextTwoTokens 1839
\HyPsd@GetOneByte 1834
\HyPsd@GetTwoBytes 1830
\HyPsd@GLYPHERR 689, 1266, 1280, 1287
\HyPsd@GlyphProcess . . . 691, 1687, 1700
\HyPsd@GlyphProcessWarning 1694, 1698
\HyPsd@GobbleFiFi 1271, 1277
\HyPsd@HighA 1027, 1036
\HyPsd@HighB 1037, 1042
\HyPsd@HighC 1043, 1046
\HyPsd@HighD 1039, 1051
\HyPsd@href 624, 1316
\HyPsd@hspace 620, 1290
\HyPsd@hspacetest . . . 1293, 1295, 1298
\HyPsd@ifnextchar 652, 653, 654, 1440
\HyPsd@ignorespaces . . . 633, 915
\HyPsd@inmathwarn . . . 511, 1263
\HyPsd@ITALCORR . . . 644, 648, 1287
\HyPsd@letCommand 670, 671, 1403
\HyPsd@letUnexpandableSpace . . . 639, 640, 641, 642, 1283, 1286
\HyPsd@LoadExtra . . . 873, 876, 2630
\HyPsd@LoadStringEnc 2591, 2612, 2614, 2618, 2620, 6748
\HyPsd@LoadUnicode 863, 2550, 2556, 2558, 2565, 2611, 6742
\HyPsd@MoonPha . . . 2077, 2095, 20738
\HyPsd@nameref 628, 1351
\HyPsd@pageref 627, 1333
\HyPsd@pdfencoding 753, 2549, 2552, 2574, 2586, 2589, 2590, 2595, 2610, 6744, 6746, 6763, 6766
\HyPsd@pdfencoding@auto 753, 2580, 2590, 2607, 6746, 6765
\HyPsd@pdfencoding@pdfdoc 2573, 2595, 2608
\HyPsd@pdfencoding@unicode 2577, 2609, 2610, 6744, 6762
\HyPsd@PrerenderUnicode 3704, 3720, 3726, 3732, 3738, 3743, 3761, 3767, 3847
\HyPsd@protected@ttestopt 655, 656, 1444
\HyPsd@ProtectSpaces . . . 676, 1454, 1503
\HyPsd@ref 626, 1317
\HyPsd@RemoveBraces . . . 678, 1475, 1492, 1500, 1506
\HyPsd@RemoveCmdPrefix 1649, 1655
\HyPsd@RemoveMask 686, 1462, 1472
\HyPsd@RemoveSpaceWarning 1623, 1635, 1661
\HyPsd@ReplaceSpaceWarning 1618, 1630, 1674
\HyPsd@Rest 1527, 1595, 1603, 1606, 1614, 1619, 1625, 1631, 1637
\HyPsd@SanitizeForOutFile 14220, 14251
\HyPsd@SanitizeOut@BraceLeft 14255, 14261, 14270
\HyPsd@SanitizeOut@BraceRight 14258, 14273, 14282
\HyPsd@SPACEOPTI 680, 696, 697, 699, 701, 703, 704, 743, 745, 1569, 1773
\HyPsd@spaceopti 745, 1718
\HyPsd@String 677, 679, 682, 684, 690, 692, 1486, 1487, 1497, 1557, 1559, 1563, 1564, 1568, 1569, 1584, 1585, 1617, 1629, 1688, 1689
\HyPsd@StringSubst . . . 693, 695, 701, 707, 710, 713, 716, 735, 738, 740, 1741
\HyPsd@Subst 689, 698, 702, 708, 714, 718, 722, 727, 728, 729, 730, 731, 732, 736, 739, 1725, 1742, 1757, 1758, 1759

\HyPsd@temp	756, 758, 759, 761, 762, 769, 771, 772, 2572, 2573, 2574, 2577, 2580, 2586, 2598, 2602, 6761, 6762, 6763, 6765, 6766, 6771
\HyPsd@tocsection . . . . .	. . . 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1311
\HyPsd@UnescapedString .	758
\HyPsd@UnexpandableSpace . .	. . 1286, 1469, 1619, 1631
\HyPsd@unichar	1911, 1978, 1984, 1989
\HyPsd@unichar@first@byte . . .	. . . . . 1997, 2017
\HyPsd@unichar@octtwo	2019, 2027, 2033
\HyPsd@unichar@second@byte . .	. . . . . 2005, 2025
\HyPsd@UnicodeReplacementCharacter . . .	1981, 2016, 2049, 2079, 2084, 2092, 2099, 2102, 2112, 2170
\HyPsd@utf@viii@undeferr	508, 2038
\HyPsd@UTFviii	502, 1903
\HyPsd@UTFviii@cthree	1934, 1943
\HyPsd@UTFviii@ctwo	1919, 1925
\HyPsd@UTFviii@ccxliv@def	1909, 1915
\HyPsd@UTFviii@ccxliv@undef	1908, 1914
\HyPsd@UTFviii@four	1907, 1952
\HyPsd@UTFviii@three	1906, 1933
\HyPsd@UTFviii@two	1905, 1918
\HyPsd@Warning	1448, 1641, 1662, 1675, 1704, 1710
\HyPsd@XSPACE	646, 723, 1287
\HyPsd@xspace	721, 723, 724
\HyRef@@StarSetRef	8426, 8431
\HyRef@autopageref	8497, 8499
\HyRef@autopagerefname	8496, 8500, 8502
\HyRef@autoref	8515, 8516
\HyRef@autosetref	8519, 8522
\HyRef@CaseStar	8583, 8589
\HyRef@currentHtag . . . . .	. . . 8535, 8553, 8556, 8562, 8569, 8575, 8590
\HyRef@MakeUppercaseFirstOfFive	4728, 8447, 8449
\HyRef@name . . . . .	. . . 8551, 8552, 8557, 8564, 8582, 8583, 8584, 8586
\HyRef@Ref	4713, 8452
\HyRef@ShowKeysInit	8592, 8602
\HyRef@ShowKeysRef	8523, 8591
\HyRef@StarSetRef	4716, 4720, 4724, 4728, 8419, 8438, 8441, 8444, 8447
\HyRef@StripStar	8550, 8581
\HyRef@testreftype	8528, 8547
\HyRef@thisref	8525, 8528
\HyTmp@found	5758, 5768, 5771
\HyTmp@key	5752, 5753
\HyTmp@optitem . . . . .	. . . 5708, 5724, 5751, 5756, 5762, 5783, 5794
\HyTmp@optlist	5707, 5722, 5723, 5754, 5755, 5760, 5761, 5769, 5770, 5790, 5792, 5799, 5802
\HyXeTeX@CheckUnicode . . . . .	. . . 3690, 3701, 3719, 3725, 3731, 3737, 3742, 3760, 3766, 3846, 6776
I	
\i	14795, 14961, 14964, 14967, 14970, 15245, 15421, 15424, 15427, 15430, 15559, 15564, 15569, 15574, 15578, 15815, 15886, 15894
\ibar	16053, 20807
\if	1312, 2206, 6587, 6595, 7288, 7289, 10685, 10688, 10692, 10696, 10700, 10702, 10704, 13901
\if@eqnstar	7232, 7241
\if@files	2178, 5024, 5331, 6393, 6816, 6826, 7730, 7745, 7761, 7773, 7793, 7798, 7817, 8240, 12982, 13013, 13028, 14221, 14408, 14487
\if@hyper@item	6908
\if@Localurl	10241, 10287
\if@mid@expandable	618
\if@minipage	7600, 7672
\if@nmbrlist	6894
\if@skiphyperref	6909
\IfBooleanTF	8515
\ifcase	325, 981, 1030, 1052, 1055, 1061, 1097, 1141, 1257, 1947, 2078, 2577, 3437, 4561, 5554, 5659, 5788, 5865, 7021, 7030, 8049, 8217, 8254, 8524, 10752, 11257, 13962, 13990, 14059, 14095, 14131, 14328
\ifcat	1528, 1555, 1562, 1567, 1572, 1575, 1578, 1581, 5287, 5289
\ifcsname	1890, 7296, 8593, 10353
\ifdim	1298, 1617, 1621, 1629, 1633, 2261, 2284, 4167, 4169, 4589, 9259, 9263, 9268, 9272, 9279, 9280, 9284, 9285, 9292, 9293, 9294, 10213, 10214, 10217, 10218, 10224, 10225, 10226, 10357, 10358, 10362, 10363, 10370, 10371, 10372, 11286, 11300, 11671, 11672, 11675, 11676, 11682, 11683, 11684, 12559, 12597, 12598, 13160, 13199, 13200, 13516, 13555, 13556
\iffalse	5877
\ifFileExists	2859, 2896, 8739, 12285
\ifFld@checked	5811, 12910, 13948
\ifFld@comb	5658
\ifFld@combo	5686, 5691, 12572, 12601, 13173, 13203, 13529, 13559
\ifFld@disabled	5812, 12911
\ifFld@edit	5692
\ifFld@fileselect	5661
\ifFld@hidden	12531, 12586, 12666, 12690, 12716, 12738, 12809, 12821, 12831, 12914, 13135, 13188, 13271, 13293, 13322, 13343, 13484, 13544, 13641, 13666, 13695, 13720
\ifFld@multiline	5659, 12520, 12816, 13123, 13472
\ifFld@multiselect	5730
\ifFld@password	5660, 12797
\ifFld@popdown	5478, 12573, 13174, 13530

<code>\ifFld@radio</code> 12569, 12591, 12846, 13170, 13193, 13526, 13549	<code>\ifHy@pdfa</code> . . . 411, 4274, 4673, 5187, 5491, 6085, 6138, 6266, 8928, 8994, 9029, 9063, 9323, 9926, 9959, 9994, 10026, 10056, 10438, 10459, 10482, 10508, 10542, 10576, 10595, 11398, 12465, 12656, 12709, 13061, 13261, 13315, 13434, 13630, 13688, 13903, 13951, 14120	<code>\ifHy@unicode</code> . . . 404, 498, 533, 536, 596, 694, 706, 734, 742, 751, 952, 1643, 1664, 1677, 1706, 1712, 1979, 2047, 2097, 2548, 2588, 3692, 6751, 13850
<code>\ifFld@readonly</code> . . 12818, 12828, 12912	<code>\ifHy@pdfcenterwindow</code> . . . 370, 9114, 9662, 10125, 10790, 11142, 12049	<code>\ifHy@verbose</code> . 406, 4822, 4838, 4850, 5434, 8014, 8700
<code>\ifForm@html</code> 5832	<code>\ifHy@pdfdisplaydoctitle</code> . . 410, 9115, 9663, 10126, 10791, 11143, 12050	<code>\ifHyField@NeedAppearances</code> . . . 5875, 5877, 5880, 12467, 13063, 13436
<code>\ifhint</code> 2858, 4452, 4514	<code>\ifHy@pdfescapeform</code> 377, 13798, 13828	<code>\ifHyInfo@AddonUnsupported</code> 3823, 3837, 3878
<code>\ifhmode</code> 2222, 2226, 2283, 2292, 4859, 7321, 7396, 7405, 7557, 7559, 8894, 8902, 11292, 12270	<code>\ifHy@pdffitwindow</code> . 379, 9113, 9661, 10124, 10789, 11141, 12048	<code>\IfHyperBoolean</code> 2333
<code>\ifHy@activeanchor</code> . . 364, 5300	<code>\ifHy@pdfmarkerror</code> 11189, 11198	<code>\IfHyperBooleanExists</code> . . . 2327, 2334
<code>\ifHy@backref</code> . 365, 4365, 4740, 6251, 7794, 7830	<code>\ifHy@pdfmenubar</code> . . 387, 9111, 9659, 10122, 10787, 11139, 12046	<code>\ifin@</code> 6973
<code>\ifHy@bookmarks</code> . . . 366, 4614	<code>\ifHy@pdfnewwindow</code> 391, 4007, 10479	<code>\ifmeasuring@</code> 6935, 6939
<code>\ifHy@bookmarksnumbered</code> 367, 14208	<code>\ifHy@pdfnewwindowset</code> . . 390, 4005	<code>\ifmmode</code> 10935, 11263
<code>\ifHy@bookmarksopen</code> 368, 4604	<code>\ifHy@pdfpagelabels</code> 394, 6514, 6727, 6814	<code>\ifnum</code> . . 1022, 1133, 1149, 1153, 1173, 1186, 1189, 1202, 1204, 1217, 1219, 1225, 1851, 1854, 1937, 1980, 1983, 1995, 2048, 2051, 2064, 2098, 2101, 2104, 2108, 2123, 2127, 2130, 2227, 2262, 2674, 2790, 2793, 2819, 3438, 3439, 4275, 4467, 4503, 4517, 4520, 4598, 4605, 4892, 5713, 5784, 5795, 6544, 6568, 6589, 6605, 6707, 7000, 7003, 7890, 7900, 8692, 8697, 8711, 8715, 8720, 8738, 8759, 9278, 9892, 9897, 10212, 10356, 10479, 10609, 10739, 10747, 10749, 10750, 10760, 10763, 10863, 10865, 10985, 11670, 11711, 12623, 12628, 12633, 12964, 13041, 13237, 13585, 13590, 13601, 13849, 13931, 13962, 13967, 13990, 13996, 14025, 14059, 14065, 14084, 14095, 14100, 14131, 14136, 14165, 14181, 14324, 14394, 14397, 14421, 14424, 14462, 14570, 14585, 14600
<code>\ifHy@breaklinks</code> . . . 369, 2509, 10932, 10973, 11268, 11291	<code>\ifHy@pdfstring</code> 395, 891	<code>\ifodd</code> 1961, 1966, 7967
<code>\ifHy@CJKbookmarks</code> . 371, 933	<code>\ifHy@pdftoolbar</code> . . . 403, 9110, 9658, 10121, 10786, 11138, 12045	<code>\ifpatchable</code> 7323
<code>\ifHy@colorlinks</code> 372, 4685, 6256, 11865	<code>\ifHy@pdfusetitle</code> 405, 6421	<code>\ifpdf</code> . . . 2667, 2710, 2721, 4410, 4493
<code>\ifHy@destlabel</code> 373, 5310	<code>\ifHy@pdfwindowui</code> . 409, 9112, 9660, 10123, 10788, 11140, 12047	<code>\ifpdfstringunicode</code> . . . 503, 506
<code>\ifHy@draft</code> 374, 4252	<code>\ifHy@plainpages</code> 396, 4360, 7942	<code>\ifportrait</code> 9258
<code>\ifHy@DviMode</code> 2665, 2685, 2880	<code>\ifHy@psdextra</code> . . 402, 595, 877	
<code>\ifHy@DvipdfmxOutlineOpen</code> 4587, 14460	<code>\ifHy@psize</code> 397	
<code>\ifHy@frenchlinks</code> . . . 380, 4698	<code>\ifHy@raiselinks</code> 398, 9399, 9479, 9516, 9556, 11935, 12217	
<code>\ifHy@href@ismap</code> . . 4915, 8999, 10036, 10432, 10502, 11525	<code>\ifHy@seminarslides</code> 399	
<code>\ifHy@hyperfigures</code> . 378, 4345, 6236, 8181	<code>\ifHy@setpagesize</code> . . 400, 9247, 10210, 10354, 11668	
<code>\ifHy@hyperfootnotes</code> 381, 7328	<code>\ifHy@setpdfversion</code> . 2633, 8696	
<code>\ifHy@hyperindex</code> . . 382, 4355, 6246, 8188	<code>\ifHy@stoppedearly</code> 362	
<code>\ifHy@hypertexnames</code> 383, 7050, 7941	<code>\ifHy@texht</code> . . . 401, 4431, 4710, 5902, 5935, 6109, 6133, 6304, 8365	
<code>\ifHy@implicit</code> . 384, 4370, 4712, 14512	<code>\ifHy@typexml</code> 363	
<code>\ifHy@linktocpage</code> . . 385, 2469, 2479		
<code>\ifHy@localanchorname</code> . . . 386, 7083, 7095		
<code>\ifHy@naturalnames</code> . 388, 7062		
<code>\ifHy@nesting</code> . 389, 4350, 4958, 4992, 5030, 5285, 6241, 7353, 7373, 7451, 7611		
<code>\ifHy@next</code> 924, 8205		
<code>\ifHy@ocgcolorlinks</code> 392, 3395, 4671, 4681, 6261, 8691, 8780, 8858, 8866, 9780, 9863, 9871		
<code>\ifHy@pageanchor</code> . . . 393, 7940		

<code>\ifthenelse</code>	7820	<code>\IntCalcMod</code>		<code>\Join</code>	19346, 20627
<code>\iftrue</code>	1457, 1736, 5880, 14572	.. 1040, 1049, 1055, 1159,		<code>\Jupiter</code>	18864, 21009
<code>\iftutex</code>	757	1165, 1180, 1196, 1211,		<code>\jupiter</code>	18862, 20437
<code>\ifvmode</code>	2238, 2260, 2273	1225, 1227, 1866, 1871,			
<code>\ifvoid</code>	7174, 7178	1872, 1878, 1881, 1883		K	
<code>\ifvtex</code> .. 2673, 2789, 2818, 4467,		<code>\intcalcMod</code>	1030	<code>\k</code>	14672, 15021, 15023, 15028,
4503, 4517, 4520		<code>\intcalcNum</code> .. 2078, 2106, 2110			15030, 15082, 15113, 15142,
<code>\ifxetex</code> . 2670, 2762, 3691, 4436,		<code>\IntCalcSub</code> .. 2072, 2125, 2128,			15157, 15475, 15477, 15521,
4500, 4588, 5075		2131, 2134			15523, 15571, 15573, 15574,
<code>\ignorespaces</code> .. 633, 7304, 7361,		<code>\intcalcSub</code>	1858, 2054		15711, 15713, 15841, 15843,
7367, 7381, 7390, 7488,		<code>\interfootnotelinepenalty</code> .	7469		16873, 16915, 16918
7596, 7607, 7610, 7668,		<code>\interleave</code>	19503, 20696	<code>\kaf</code>	19813
7676, 7738, 7753, 7769,		<code>\interlinepenalty</code>	7469	<code>\kanjiskip</code>	444
7778, 7828		<code>\inva</code>	15966, 20783	<code>\kappa</code>	16440, 19945
<code>\iiint</code>	18026, 20158	<code>\invamp</code>	17708	<code>\kasra</code>	19839
<code>\iinferior</code>	19963	<code>\invbackneg</code>	18502, 20361	<code>\keepPDF@SetupDoc</code> .. 11869,	
<code>\iint</code>	18024, 20157	<code>\invdiameter</code> 19302, 20609		11876	
<code>\IJ</code>	14791, 15580	<code>\inve</code>	15825, 19891	<code>\kern</code> ... 1537, 1618, 1623, 1635,	
<code>\ij</code>	15004, 15582	<code>\invglotstop</code> 16210, 19924		7962, 7963, 7964, 7966,	
<code>\Im</code>	17662, 20030	<code>\invh</code>	16041, 20802	7967, 7972, 14527	
<code>\immediate</code>		<code>\invlegr</code>	16116, 20825	<code>\kernel@ifnextchar</code>	653
.. 5378, 5380, 6394, 6720,		<code>\invm</code>	16075, 20813	<code>\Keyboard</code>	18520, 20369
6819, 6827, 7733, 7748,		<code>\invneg</code>	19363, 20634	<code>\kha</code>	19781
7764, 7774, 7793, 7823,		<code>\invr</code>	16111, 20823	<code>\kinferior</code>	20021
8782, 8797, 8812, 10868,		<code>\invscr</code>	16138, 19912	<code>\Kutline</code>	18734, 20973
11708, 12927, 12983, 12986,		<code>\invscripta</code>	15974, 20785	<code>\kv@define@key</code>	3845
13047, 14314, 14380, 14411,		<code>\invv</code>	16173, 20837	<code>\KV@href@pdfnewwindow</code> 4913	
14490		<code>\invw</code>	16177, 20839	<code>\KV@href@pdfnewwindow@de-</code>	
<code>\in</code>	17943, 20124	<code>\invy</code>	16181, 20841	fault	4914
<code>\in@</code>	6971	<code>\iota</code>	16438, 19944	<code>\KV@Hyp@draft</code>	2443
<code>\incr@eqnum</code>	7195, 7208	<code>\ipagamma</code> 16033, 19903		<code>\KV@Hyp@nolinks</code>	2443
<code>\index</code>	622	<code>\isuperior</code>	19987	<code>\KV@Hyp@pdfnewwindow</code> 4913	
<code>\indexentry</code> .. 8243, 8258, 8273,		<code>\item</code> ... 6889, 6892, 7760, 7772,		<code>\KV@Hyp@pdfnewwindow@de-</code>	
8277, 8287		7815		fault	4914
<code>\Info</code>	19600, 20727	<code>\Itemautorefname</code>	8605	<code>\kv@key</code> 3831, 3834, 3841, 5711,	
<code>\infty</code>	17986, 20142	<code>\itemautorefname</code>		5714, 5716, 5720, 5724	
<code>\input</code>	856, 866,	.. 2972, 2990, 3008, 3026,		<code>\kv@parse</code>	5710
881, 884, 3358, 3366, 3373,		3044, 3062, 3080, 3109,		<code>\kv@parse@normalized</code> ... 3862,	
4560, 11603, 11709, 11808,		3110, 3138, 3156, 3174,		3869	
11985, 16330		3192, 3210, 3228, 3246,		<code>\kv@processor@default</code> ... 3865,	
<code>\InputIfFileExists</code> . 4186, 14404,		3264, 8605, 8606, 8609		3872	
14435, 14480, 14482		<code>\itshape</code>	566	<code>\kv@set@family@handler</code> . 3824	
<code>\inputlineno</code>	4829, 5292			<code>\kv@value</code> 3829, 5712, 5719, 5720	
<code>\insert</code>	7466	J		<code>\kvsetkeys</code> 2632, 2697, 2837, 3698,	
<code>\int</code>	18021, 20156	<code>\j</code>	15587, 15845, 15952	3804, 4276, 4530, 4549,	
<code>\IntCalcAdd</code>	1880	<code>\JackStar</code>	19076, 20512	4672, 5809, 8693, 11197,	
<code>\IntCalcDec</code>	1044, 2074	<code>\JackStarBold</code> ... 19078, 20513		12480, 12782, 12795, 12844,	
<code>\intcalcDec</code>	2056	<code>\jarr</code>	19833	12887, 12908, 13038, 13419	
<code>\IntCalcDiv</code>		<code>\jeem</code>	19777		
.. 1038, 1047, 1052, 1155,		<code>\jeh</code>	19849	L	
1164, 1176, 1193, 1208,		<code>\jinferior</code>	20700	<code>\L</code>	14784, 15611
1223, 1864, 1870, 1876		<code>\jobname</code> . 12285, 14313, 14404,		<code>\l</code>	6918, 14797, 15613
<code>\intcalcDiv</code> .. 1028, 1871, 1878,		14411, 14435, 14480, 14482,		<code>\labdentalnas</code> ... 16083, 20816	
1881		14490		<code>\label</code>	621, 7987

<code>\label@C@hyperref</code> . . .	5000, 5002	9986, 10019, 10252, 10261,	<code>\lesseqqgtr</code>	19416, 20657
<code>\label@hook</code>	5360	10315, 10474, 10499, 10529,	<code>\lessgtr</code>	18210, 20238
<code>\label@hyperdef</code>	4985, 5016	10562, 10934, 11261, 11514,	<code>\LessOrEqual</code> . . .	18163, 20925
<code>\label@hyperref</code>	4965, 4999	11541, 11572, 11934, 12216,	<code>\lesssim</code>	18200, 20234
<code>\label@name</code> . .	5325, 5335, 5361	12535, 12661, 12669, 12708,	<code>\LetLtxMacro</code> . . .	6308, 6312, 6381,
<code>\labelsep</code>	7827	12741, 13138, 13224, 13246,		6385
<code>\labelwidth</code>	7826	13266, 13273, 13294, 13314,	<code>\Letter</code>	19028, 21041
<code>\Ladiesroom</code>	19589, 20724	13345, 13491, 13583, 13612,	<code>\LHD</code>	18764, 20404
<code>\lam</code>	19815	13635, 13644, 13668, 13687,	<code>\lhd</code>	18363, 20302
<code>\Lambda</code>	16377, 19928	13726, 14525	<code>\hooknwarrow</code> . .	19220, 20579
<code>\lambda</code>	16442, 19946	<code>\Leftarrow</code>	<code>\hooksearrow</code> . . .	19224, 20581
<code>\lambdabar</code>	15773, 20772		<code>\Libra</code>	18897, 21020
<code>\lambdaslash</code>	15774, 20773	<code>\leftarrow</code>	<code>\libra</code>	18895, 20448
<code>\langle</code>	18522, 20370	<code>\leftarrowtail</code> . . .	<code>\Lightning</code>	17807, 20895
<code>\language@group</code>	605	<code>\leftarrowtriangle</code> . .	<code>\lightning</code>	17805, 20069
<code>\LARGE</code>	573	<code>\LEFTCIRCLE</code> . .	<code>\limits</code>	4805
<code>\Large</code>	574	<code>\leftharpoondown</code> .	<code>\linferior</code>	20022
<code>\large</code>	577	<code>\leftharpoonup</code> . .	<code>\literalps@out</code> . .	2214, 10857, 10862,
<code>\LargerOrEqual</code> . .	18168, 20926	<code>\leftleftarrows</code> . .		10914, 10920, 10946, 10952,
<code>\lastnodetype</code>	2262	<code>\leftleftharpoons</code> . .		11208, 11224, 11258, 11259,
<code>\lastskip</code>	2261, 2269, 2276, 2284,	<code>\leftModels</code>		11287, 11289, 11301, 11303,
	2288, 2295	<code>\leftmodels</code>		11601, 11698, 11707, 11765,
<code>\LaTeX</code> . .	530, 532, 12291, 12292	<code>\leftmoon</code>		11778, 11859, 11983, 12143
<code>\LaTeXe</code>	531, 12292	<code>\leftpointright</code> . .	<code>\ll</code>	18181, 20225
<code>\latfric</code>	16065, 20810	<code>\leftrightarrow</code> . .	<code>\llap</code>	5090
<code>\LayoutCheckField</code> . .	6187, 12740,	<code>\leftrightarrow</code> . .	<code>\llbracket</code>	19189, 21045
	13344, 13725	<code>\leftrightarrow</code> . .	<code>\llcorner</code>	18512, 20365
<code>\LayoutChoiceField</code> . .	6179, 12590,	<code>\leftrightarrows</code> . .	<code>\Lleftarrow</code>	17896, 20103
	13192, 13548	<code>\leftrightarrowtriangle</code> . .	<code>\lll</code>	18433, 20331
<code>\LayoutPushButtonField</code> . .	6195,		<code>\llparenthesis</code>	19298, 20607
	12660, 12668, 13265, 13272,	<code>\leftrightharpoon</code> . .	<code>\lnapprox</code>	19411, 20655
	13634, 13643	<code>\leftrightharpoons</code> .	<code>\lneq</code>	19406, 20653
<code>\LayoutTextField</code> . .	6171, 12534,	<code>\Leftscissors</code>	<code>\lneqq</code>	18177, 20223
	13137, 13490	<code>\leftslice</code>	<code>\lnsim</code>	18465, 20345
<code>\lbrackdbl</code>	20564	<code>\leftspoon</code>	<code>\Longleftarrow</code> . .	19204, 20571
<code>\lccode</code> . .	962, 1745, 1746, 1747,	<code>\leftsquigarrow</code> . .	<code>\longleftarrow</code> . . .	19198, 20568
	1748, 1749, 1750, 1751,	<code>\lefttherefore</code> . . .	<code>\Longleftrightarrow</code> . .	19208, 20573
	1752, 1753, 1754, 1901,	<code>\leftthreetimes</code> . .	<code>\longleftrightarrow</code> . .	19202, 20570
	6045, 8202, 8203, 14238,	<code>\LeftTorque</code>	<code>\longlegr</code>	19910
	14239, 14240, 14241, 14242,	<code>\Lefttorque</code>	<code>\Longmapsfrom</code> . .	19212, 20575
	14243, 14244, 14245, 14246,	<code>\leftVdash</code>	<code>\Longmapsto</code>	19214, 20576
	14247, 14248	<code>\leftvdash</code>	<code>\longmapsto</code>	19210, 20574
<code>\lcurvearrowdown</code> . .	19242, 20588	<code>\legacy</code>	<code>\Longrightarrow</code> . .	19206, 20572
<code>\lcurvearrowse</code> . . .	19234, 20585	<code>\legm</code>	<code>\longrightarrow</code> . .	19200, 20569
<code>\lcurvearrowsw</code> . .	19237, 20586	<code>\legr</code>	<code>\looparrowleft</code> . . .	17799, 20066
<code>\ldots</code>	523	<code>\Leo</code>	<code>\looparrowright</code> . .	17801, 20067
<code>\le</code>	18160, 20216	<code>\leo</code>	<code>\lower</code> . .	5092, 9405, 9485, 9522,
<code>\leadsto</code>	19228, 20583	<code>\leq</code>		9562, 11289, 11941, 12223
<code>\leavevmode</code> . .	630, 2216, 4262,	<code>\leqclosed</code>	<code>\lowercase</code>	963, 1755, 1902, 2344,
	4280, 4320, 5085, 5117,	<code>\leqq</code>		2916, 2946, 3771, 3807,
	5192, 6361, 7395, 7556,	<code>\leqslant</code>		5383, 5384, 5387, 5392,
	8514, 8914, 8982, 9017,	<code>\lessapprox</code>		5416, 5426, 5480, 5536,
	9051, 9310, 9398, 9478,	<code>\lessclosed</code>		5856, 5930, 5933, 6046,
	9515, 9555, 9906, 9948,	<code>\lessdot</code>		8204, 10984, 14249
		<code>\lesseqgtr</code>		

<code>\lozenge</code>	18769, 20406	<code>\ltx@gobbletwo</code> 5372, 5374, 6324, 6338, 12947	<code>\make@stripped@name</code> . . 7278
<code>\lrcorner</code>	18514, 20366	<code>\ltx@ifclassloaded</code> . . 6541, 7883	<code>\makeatletter</code> 3, 848, 905
<code>\LT@array</code>	7159	<code>\ltx@ifempty</code> 5131	<code>\MakeButtonField</code> . 6202, 12662, 12671, 12693, 12713, 12719, 13267, 13277, 13302, 13319, 13326, 13636, 13639, 13667, 13692, 13696
<code>\LT@foot</code>	7174, 7178	<code>\ltx@iffileloaded</code> . 878, 879, 6500	<code>\MakeCheckField</code> . 6199, 12743, 13349, 13722
<code>\LT@p@ftn</code> . . 7427, 7430, 7434, 7444		<code>\ltx@ifpackageloaded</code> 929, 13095	<code>\MakeChoiceField</code> . 6201, 12643, 13250, 13610
<code>\LT@p@ftntext</code> 7425, 7432		<code>\ltx@ifUndefined</code> . 261, 267, 306, 525, 603, 643, 719, 754, 798, 799, 800, 1299, 1394, 1395, 1519, 2172, 2201, 4204, 4233, 4235, 4917, 5321, 5352, 6461, 6873, 6967, 6974, 6996, 7011, 7264, 7696, 7901, 8266, 8503, 8504, 8548, 8549, 8551, 8552, 8698, 8729, 8959, 8969, 10421, 10524, 10910, 10953, 11032, 11217, 13093, 14561, 14571	<code>\MakeFieldObject</code> 12926, 13073, 13083, 13086
<code>\LT@start</code>	7176, 7186	<code>\ltx@ifundefined</code> 2122, 2328, 2329, 2372, 5364, 7917, 8760	<code>\MakeLinkTarget</code> 7314
<code>\ltimes</code>	18394, 20314	<code>\ltx@leftbracechar</code> 321	<code>\MakeLowercase</code> 594
<code>\ltx@backslashchar</code> 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 323, 4080		<code>\ltx@LocalAppendToMacro</code> 346, 349, 6959, 6975, 6980	<code>\MakeLowercaseUnsupportedIn-PdfStrings</code> 473, 594
<code>\ltx@empty</code> 351, 352, 458, 1525, 2666, 2878, 2890, 2894, 3387, 3524, 3900, 3917, 3924, 4026, 4145, 4146, 4149, 4150, 4151, 4152, 4153, 4154, 4158, 4210, 4488, 4489, 4523, 4533, 4632, 5137, 5138, 5309, 5330, 5353, 5581, 5599, 5613, 5626, 5642, 5674, 5699, 5706, 5707, 6032, 6070, 6071, 6072, 6073, 6074, 6075, 6076, 6077, 6078, 6079, 6080, 6105, 6486, 6487, 6488, 6491, 6503, 6512, 6529, 6534, 6540, 6549, 6569, 7223, 8046, 8057, 8066, 8267, 8713, 8733, 8737, 9338, 10242, 10329, 10938, 11196, 11210, 11226, 11245, 11266, 11333, 11600, 11706, 11980, 12151, 12158, 12482, 12503, 12516, 12757, 12792, 12839, 12933, 12934, 12953, 12960, 12976, 13007, 13050, 13090, 13091, 13092, 13119, 13444, 13461, 13468		<code>\ltx@Cone</code> 6543, 6544, 6551, 7886, 7890, 7896, 7899, 7900, 7913, 8720, 13099	<code>\MakeRadioField</code> . . 6198, 12626, 13236, 13576
<code>\ltx@firstofone</code> 2686, 4218, 5356, 5373, 6416, 14266, 14278		<code>\ltx@Conelevel@sanitize</code> . . . 6950, 6969, 8305	<code>\maketag@@@</code> 8117
<code>\ltx@firstoftwo</code> 330, 338, 2065, 2329, 2336, 5248, 7354, 7374		<code>\ltx@ReturnAfterElseFi</code> . . 4787	<code>\MakeTextField</code> . . . 6200, 12537, 13142, 13487
<code>\ltx@GlobalAppendToMacro</code> 909, 5360		<code>\ltx@ReturnAfterFi</code> 1693, 4791, 4807, 8324, 8360, 8658, 8668, 13821	<code>\maketitle</code> 7505, 7506
<code>\ltx@gobble</code> 255, 2692, 4211, 4238, 4247, 4620, 5352, 5354, 6321, 6322, 6333, 6335, 6336, 6688, 12265, 12946, 12962, 12967, 14264, 14276		<code>\ltx@rightbracechar</code> 322	<code>\MakeUppercase</code> 593, 8450
<code>\ltx@gobblethree</code> 7922		<code>\ltx@secondoftwo</code> 327, 2067, 2328, 2329, 2338, 2340, 5142, 5246, 7356, 7376, 12952, 12955, 12958, 12961, 12965, 12966, 12969	<code>\MakeUppercaseUnsupportedIn-PdfStrings</code> 473, 593
		<code>\ltx@space</code> 324, 1450	<code>\Male</code> 18861, 21008
		<code>\ltx@zero</code> 1749, 1750, 1751, 1752, 1753, 1754, 8708, 8715, 12964, 13097	<code>\male</code> 18857, 20436
		<code>\lz</code> 16072, 20812	<code>\MaleMale</code> 18978, 20473
			<code>\ManFace</code> 19575, 20718
			<code>\manstar</code> 18972, 20470
			<code>\mapsto</code> 17793, 20063
			<code>\Mars</code> 18860, 21007
			<code>\mars</code> 18859, 21006
			<code>\MathBSuppress</code> . 10262, 10266
			<code>\mathclose</code> 7226
			<code>\mathdisplay</code> 7198, 7207
			<code>\mathdisplay@push</code> . 7196, 7205
			<code>\mathdollar</code> 15183, 20739
			<code>\mathellipsis</code> 17509, 20873
			<code>\mathopen</code> 7217, 7246
			<code>\mathparagraph</code> . 15306, 20750
			<code>\mathsection</code> 15273, 20748
			<code>\mathsterling</code> . . . 15262, 20745
			<code>\mathunderscore</code> . 15241, 20743
			<code>\mathversion</code> 582
			<code>\maxdimen</code> 3459, 12931
			<code>\MaybeStopEarly</code> 459, 2700, 2795, 4374, 4505, 6847, 6850
			<code>\mbox</code> 631, 8868, 9873
			<code>\mdseries</code> 565

<code>\meaning</code>	62, 153, 159, 2181, 6445, 7075, 7285, 14446, 14454, 14469
<code>\measuredangle</code> . .	17990, 20144
<code>\measuring@false</code>	6935
<code>\mediaheight</code> 10359, 10364, 10373	
<code>\mediawidth</code> 10360, 10365, 10374	
<code>\meem</code>	19817
<code>\Mercury</code>	18846, 20999
<code>\mercury</code>	18844, 20434
<code>\merge</code>	19377, 21061
<code>\MessageBreak</code>	263, 269, 286, 287, 292, 293, 333, 334, 1649, 1670, 1683, 1706, 1711, 1713, 2366, 2367, 2382, 2404, 2407, 2409, 2487, 2488, 2511, 2512, 2560, 2561, 2562, 2600, 2601, 2622, 2637, 2689, 2715, 2731, 2766, 2805, 2812, 2823, 2829, 2853, 2862, 2867, 2887, 2900, 2938, 3397, 3520, 3521, 3581, 3582, 3600, 3601, 3695, 3784, 3839, 3840, 3960, 3961, 4083, 4084, 4085, 4106, 4108, 4116, 4117, 4124, 4174, 4414, 4415, 4423, 4424, 4440, 4441, 4456, 4457, 4471, 4472, 4480, 4481, 4675, 4894, 4895, 4919, 4920, 4936, 4937, 5437, 5442, 5451, 5494, 5540, 5664, 5777, 5849, 5860, 5892, 5893, 5912, 6004, 6005, 6006, 6007, 6519, 6754, 6769, 6770, 7991, 8021, 8022, 8023, 8024, 8025, 8703, 8721, 8741, 8743, 8749, 8751, 8754, 8762, 8918, 9911, 10450, 10533, 10821, 10827, 11041, 12940, 12942, 14186, 14204, 14316
<code>\MF</code>	540, 12294
<code>\mho</code>	20034
<code>\mid</code>	17997, 20146
<code>\MineSign</code>	18957, 20463
<code>\mininferior</code>	20023
<code>\minusdot</code>	19353, 20630
<code>\minusinferior</code>	20011
<code>\minussuperior</code>	19995
<code>\models</code>	18337, 20944
<code>\moo</code>	20606
<code>\Moon</code>	19573, 20717
<code>\MoonPha</code>	2081, 2086, 2089, 2095, 20738
<code>\Mountain</code>	19004, 20481
<code>\MoveDown</code>	18754, 20979
<code>\MoveUp</code>	18739, 20976
<code>\MP</code>	541, 12295
<code>\mp</code>	17965, 20133
<code>\mu</code>	16444, 19947
<code>\mugreek</code>	19948
<code>\multimap</code>	18381, 20308
<code>\multimapboth</code> . .	19336, 20622
<code>\multimapdotbothA</code> . . .	18377, 20306
<code>\multimapdotbothB</code> . . .	18379, 20307
<code>\MultiplicationDot</code> 15309, 20751	
<code>\multiply</code>	10714, 10743
<code>\Mundus</code>	19571, 20716
<code>\MVArrowDown</code> .	17756, 20891
<code>\MVAt</code>	15233, 19879
<code>\MVComma</code>	15201, 19865
<code>\MVDivision</code>	15207, 19868
<code>\MVEight</code>	15225, 19877
<code>\MVFive</code>	15219, 19874
<code>\MVFour</code>	15217, 19873
<code>\MVMinus</code>	15203, 19866
<code>\MVMultiplication</code> 15377, 20754	
<code>\MVNine</code>	15227, 19878
<code>\MVOne</code>	15211, 19870
<code>\MVPeriod</code>	15205, 19867
<code>\MVPlus</code>	15199, 19864
<code>\MVRightArrow</code> .	17752, 20889
<code>\MVRightarrow</code> . .	17753, 20890
<code>\MVSeven</code>	15223, 19876
<code>\MVSix</code>	15221, 19875
<code>\MVThree</code>	15215, 19872
<code>\MVTwo</code>	15213, 19871
<code>\MVZero</code>	15209, 19869
N	
<code>\nabla</code>	17941, 20123
<code>\name@of@eq</code>	6907
<code>\nameref</code>	628
<code>\napprox</code>	18080, 20181
<code>\napproxeq</code>	18085, 20183
<code>\nasb</code>	19829
<code>\nasymp</code>	18098, 20189
<code>\natural</code>	18945, 20458
<code>\nbackcong</code>	18094, 20187
<code>\nbacksim</code>	18058, 20171
<code>\nbacksimeq</code>	18405, 20319
<code>\nBumpeq</code>	18103, 20191
<code>\nbumpeq</code>	18107, 20193
<code>\ncirceq</code>	18139, 20207
<code>\ncong</code>	18076, 20179
<code>\ncurlyeqprec</code> . . .	18445, 20336
<code>\ncurlyeqsucc</code> . . .	18449, 20338
<code>\nDashV</code>	19489, 20690
<code>\nDashv</code>	19482, 20688
<code>\ndashV</code>	19476, 20686
<code>\ndashv</code>	18321, 20288
<code>\nDoteq</code>	18117, 20197
<code>\ndoteq</code>	18111, 20195
<code>\ndownmodels</code> . . .	19494, 20692
<code>\ndownvdash</code>	18327, 20290
<code>\ne</code>	18149, 20212
<code>\Nearrow</code>	17890, 20100
<code>\nearrow</code>	17764, 20050
<code>\neg</code>	20729
<code>\Neptune</code>	18873, 21012
<code>\neptune</code>	18871, 20440
<code>\neq</code>	18149, 20211
<code>\neqcirc</code>	18135, 20205
<code>\neqdot</code>	19386, 20643
<code>\neqsim</code>	18067, 20175
<code>\nequal</code>	18152, 20921
<code>\nequiv</code>	18156, 20214
<code>\neswarrow</code>	19218, 20578
<code>\netscape</code>	9441
<code>\Neural</code>	18984
<code>\Neutral</code>	20476
<code>\new@ifnextchar</code>	654
<code>\new@pdflink</code> . .	8893, 8947, 8950
<code>\new@refstepcounter</code> 7189, 7220	
<code>\newblock</code>	7831
<code>\newcommand</code>	4, 9, 42, 2215, 5077, 5083, 5115, 5320, 5343, 6365, 6369, 7307, 7627, 8149, 14286, 14289, 14294, 19863, 20735
<code>\newcount</code>	460, 461, 2220, 2658, 4885, 5815, 6530, 12486, 12638, 13096, 13243, 13450, 13606, 14321
<code>\newcounter</code> . .	6890, 7329, 9779, 14236
<code>\newdimen</code> . . .	457, 4396, 4397, 5073, 5816, 5817
<code>\NewDocumentCommand</code> 2312, 8513	
<code>\NewExpandableDocumentCommand</code>	2321
<code>\NewHook</code>	7038
<code>\newif</code>	362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 377, 378, 379, 380, 381, 382, 383, 384, 385,

386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 409, 410, 411, 924, 2633, 2665, 3823, 4587, 4915, 5390, 5478, 5811, 5812, 5832, 5875, 6908, 6909, 6935, 7232, 10241, 11189	<code>\newlabel</code> 2184, 5026, 6399, 6400, 6407, 6418	<code>\newlabelxx</code> 6401, 6402	<code>\newlength</code> 14518	<code>\newline</code> 528, 6466	<code>\newname</code> 7281, 7290	<code>\newsavebox</code> 9709, 11237	<code>\newtie</code> .. 14674, 14675, 15072, 15123, 15152, 15170	<code>\newtoks</code> 90, 5903, 11059, 11312, 11313	<code>\newwrite</code> 14409, 14488	<code>\nexists</code> 17934, 20120	<code>\next</code> .. 7821, 7822, 7823, 10677, 10679, 10681	<code>\nfallingdoteq</code> 20199	<code>\nfallingdotseq</code> 18122	<code>\nfss@text</code> 8372, 8392, 8409, 8541	<code>\NG</code> 15629	<code>\ng</code> 15631, 15632, 15633, 20762, 20763	<code>\ngeq</code> 18198, 20233	<code>\ngeqq</code> 18175, 20222	<code>\ngeqslang</code> 19396	<code>\ngeqslant</code> 20648	<code>\ngg</code> 18187, 20228	<code>\ngtr</code> 18193, 20231	<code>\ngtrapprox</code> 19404, 20652	<code>\ngtrclosed</code> 18478, 20967	<code>\ngtrless</code> 18214, 20240	<code>\ngtrsim</code> 18208, 20237	<code>\nhateq</code> 18145, 20209	<code>\ni</code> 17949, 20127	<code>\NibRight</code> 19040, 20495	<code>\NibSolidRight</code> .. 19042, 20496	<code>\niepsilon</code> 16005, 19898	<code>\niiota</code> 16054, 19906	<code>\nineinferior</code> 20009	<code>\ninesuperior</code> 19993	<code>\ninferior</code> 20024	<code>\nphi</code> 16107, 19909	<code>\niupsilon</code> 16165, 19915	<code>\nj</code> 16087, 20818	<code>\nLeftarrow</code> 17864, 20090	<code>\nleftarrow</code> 17772, 20053	<code>\nleftModels</code> 19491, 21067	<code>\nleftmodels</code> 19484, 21065	<code>\nLeftrightarrow</code> . 17866, 20091	<code>\nleftrightarrow</code> .. 17803, 20068	<code>\nleftVdash</code> 19478, 21063	<code>\nleftvdash</code> 18323, 20940	<code>\nleq</code> 18196, 20232	<code>\nleqq</code> 18171, 20220	<code>\nleqslant</code> 19392, 20646	<code>\nless</code> 18191, 20230	<code>\nlessapprox</code> 19400, 20650	<code>\nlessclosed</code> 18475, 20966	<code>\nlessgtr</code> 18216, 20241	<code>\nlesssim</code> 18206, 20236	<code>\nll</code> 18183, 20226	<code>\nmid</code> 17999, 20147	<code>\nmodels</code> 18356, 20950	<code>\noboundary</code> 526	<code>\nobreak</code> 2265, 2274, 2285, 2293, 7396, 7557	<code>\nobreakspace</code> . 642, 8507, 8510	<code>\NoChemicalCleaning</code> .. 19316, 20613	<code>\noexpand</code> 22, 93, 95, 108, 116, 169, 171, 172, 173, 176, 206, 913, 976, 1409, 1426, 1528, 1555, 1916, 2272, 2273, 2274, 2277, 2291, 2292, 2293, 2296, 3307, 3309, 3311, 3312, 3313, 3315, 3333, 3530, 3531, 3533, 3895, 4336, 4340, 4341, 4530, 4799, 4973, 5287, 5289, 5315, 5446, 5991, 6643, 6644, 6653, 6655, 6658, 6792, 6953, 6954, 6971, 7112, 7113, 7114, 7115, 7116, 7124, 7125, 7126, 7284, 7418, 7428, 7436, 7437, 7438, 7440, 7567, 7657, 7732, 7747, 7763, 7888, 8044, 8140, 8142, 8426, 8427, 8557, 8558, 8563, 8565, 8570, 8571, 8576, 8577, 9646, 11126, 11193, 11775, 12033, 12565, 12566, 12567, 12568, 13166, 13167, 13168, 13169, 13522, 13523, 13524, 13525, 13800	<code>\noexpandQ</code> 1555	<code>\nofrenchguillemets</code> ... 661, 663	<code>\NoHy@OrgPageRef</code> 6312, 6314, 6385, 6387	<code>\NoHy@OrgRef</code> 6308, 6310, 6381, 6383	<code>\NoHyper</code> 6316	<code>\nohyperpage</code> 6360, 8314, 8316, 8318	<code>\nolinkurl</code> 4951	<code>\nolinkurl@</code> 4951, 4952	<code>\NomFancyVerbLineautorefname</code> 3127	<code>\Nomfootnoteautorefname</code> 3107	<code>\Nomtheoremautorefname</code> 3131	<code>\nonumber</code> 7259, 7262	<code>\normalbaselineskip</code> . 6220, 6221, 6222, 6223, 6224, 6225	<code>\normalfont</code> 560	<code>\normalsize</code> 578, 7603, 7675	<code>\notasymp</code> 18100, 20917	<code>\notbackslash</code> ... 18536, 20375	<code>\NotCongruent</code> .. 18158, 20923	<code>\notdivides</code> 18001, 20906	<code>\note</code> 7931	<code>\notequiv</code> 18159, 20924	<code>\notin</code> 17945, 20125	<code>\notni</code> 17954, 20901	<code>\notowner</code> 17952, 20128	<code>\notperp</code> 19179, 20560	<code>\notslash</code> 18533, 20374	<code>\noway</code> 19002, 20480	<code>\nparallel</code> 18004, 20149	<code>\nperp</code> 18334, 20943	<code>\nprec</code> 18234, 20250	<code>\nprecapprox</code> 19455, 20676	<code>\npreccurlyeq</code> ... 18451, 20339	<code>\npreceq</code> 19431, 20664	<code>\npreceqq</code> 19443, 20670	<code>\nprecsim</code> 18228, 20247	<code>\nqsubseteq</code> 20341	<code>\nqsupseteq</code> 20342	<code>\NR@gettitle</code> 7593	<code>\NR@ref@showkeys</code> . 4715, 4719, 4723, 4727	<code>\nRightarrow</code> 17869, 20092	<code>\nrightarrow</code> 17774, 20054	<code>\nrightModels</code> ... 18362, 20952	<code>\nrightmodels</code> ... 18355, 20949	<code>\nrightVdash</code> 18359, 20951	<code>\nrightvdash</code> 18352, 20948	<code>\nrisingdoteq</code> 18127, 20201	<code>\nsim</code> 18063, 20173	<code>\nsimeq</code> 18071, 20177	<code>\nsqsubset</code> 18264, 20265	<code>\nsqsubseq</code> 18272, 18455, 20269	<code>\nsqsupset</code> 18268, 20267	<code>\nsqsupseteq</code> 18276, 18457, 20271
---	--	---	-------------------------------------	---------------------------------------	--	--	---	--	---	--	--	---	--	--	------------------------------	---	---------------------------------------	--	-------------------------------------	-------------------------------------	--------------------------------------	---------------------------------------	---	---	---	--	---	-------------------------------------	---	---	--	---	--	--	-------------------------------------	---------------------------------------	--	-------------------------------------	---	---	---	---	--	---	---	---	---------------------------------------	--	--	--	---	--	---	---	--------------------------------------	---------------------------------------	--	------------------------------------	---	--	---	--	------------------------------------	---	---	---	----------------------------------	---	------------------------------------	---	---	---	--	---	--	------------------------------------	---	---	---	--	---	-------------------------------	---	--	--	---	--	---	--	--	--	--	---	---	--	---	---	--------------------------------------	--------------------------------------	--------------------------------------	---	---	---	---	---	---	---	--	---------------------------------------	---	--	---	--	---

<code>\nSubset</code>	18415, 20323	1966, 1970, 1973, 1974,	<code>\OHORN</code> .	19630, 19732, 19733,
<code>\nsubset</code>	18242, 20254	1976, 1985, 1990, 2007,		19734, 19735, 19736
<code>\nsubsepeq</code>	18250, 20258	2021, 2029, 2035, 2654,	<code>\ohorn</code>	3172, 3179, 19624, 19672,
<code>\nsubseteqq</code>	19467, 20682	2655, 3913		19673, 19674, 19675, 19676
<code>\nsucc</code>	18236, 20251	<code>\nun</code>	<code>\oiint</code>	18031, 20160
<code>\nsuccapprox</code>	19459, 20678	<code>\nupmodels</code>	<code>\oinferior</code>	20017
<code>\nsucccurlyeq</code>	18453, 20340	<code>\nupvdash</code>	<code>\oint</code>	18028, 20159
<code>\nsucceq</code>	19435, 20666	<code>\nVDash</code>	<code>\ointclockwise</code>	18034, 20161
<code>\nsucceqq</code>	19447, 20672	<code>\nVdash</code>	<code>\ointctrclockwise</code>	18036, 20162
<code>\nsuccsim</code>	18232, 20249	<code>\nvDash</code>	<code>\oldb</code>	798
<code>\nsuperior</code>	19999	<code>\nvdash</code>	<code>\oldc</code>	799
<code>\nSupset</code>	18419, 20325	<code>\nvdash</code>	<code>\oldd</code>	800
<code>\nsubset</code>	18244, 20255	<code>\nVdash</code>	<code>\oldnewlabel</code>	6399, 6404, 6407
<code>\nsubsepeq</code>	18252, 20259	<code>\nVdash</code>	<code>\olessthan</code>	19318, 20614
<code>\nsubseteqq</code>	19471, 20684	<code>\nwarrow</code>	<code>\OMEGA</code>	12290
<code>\nthickapprox</code>	18082, 20915	<code>\nwarrow</code>	<code>\Omega</code>	16404, 19935
<code>\ntriangleleft</code>	18473, 20349	<code>\nwsearrow</code>	<code>\omega</code>	16470, 19960
<code>\ntrianglelefteq</code>	18480, 20351		<code>\ominus</code>	18285, 20275
<code>\ntriangleright</code>	18476, 20350		<code>\online</code>	8018, 8019
<code>\ntrianglerighteq</code>	18483, 20352		<code>\oneinferior</code>	20001
<code>\ntriplesim</code>	18090, 20185		<code>\onesuperior</code>	19883
<code>\ntwoheadleftarrow</code>	17778, 20056		<code>\oo</code>	19537, 20703
<code>\ntwoheadrightarrow</code>	17785, 20059		<code>\openbullet</code>	20409
<code>\nu</code>	16446, 19949		<code>\openo</code>	15981, 19894
<code>\null</code>	7812, 7820, 8414, 8537		<code>\openout</code>	14411, 14490
<code>\number</code>	1135, 1137, 1164, 1165,		<code>\oplus</code>	18282, 20274
	1855, 1920, 1921, 1922,		<code>\OpMode</code>	2674, 2790, 2793, 2806,
	1923, 1927, 1928, 1929,			2819, 2824, 4467, 4503,
	1930, 1931, 1935, 1936,			4517, 4520, 10760, 10865,
	1937, 1938, 1939, 1940,			11711
	1941, 1945, 1946, 1947,		<code>\or</code>	328, 982, 983, 984, 985, 986,
	1948, 1949, 1950, 1953,			987, 988, 989, 990, 991, 992,
	1955, 1959, 1960, 1962,			993, 994, 995, 996, 997, 998,
	1964, 1966, 1969, 1973,			999, 1000, 1001, 1002, 1003,
	1974, 1975, 1976, 1985,			1004, 1005, 1006, 1007,
	1986, 1990, 1991, 1998,			1008, 1009, 1010, 1011,
	1999, 2003, 2006, 2007,			1012, 1013, 1031, 1053,
	2008, 2018, 2020, 2021,			1056, 1062, 1063, 1064,
	2026, 2028, 2029, 2034,			1065, 1066, 1067, 1068,
	2035, 4589, 4606, 5404,			1069, 1070, 1071, 1072,
	7001, 7004, 7052, 7053,			1073, 1074, 1075, 1076,
	7056, 7060, 8774, 8777,			1077, 1078, 1079, 1080,
	8778, 9469, 9487, 9488,			1081, 1082, 1083, 1084,
	9503, 9504, 9524, 9525,			1085, 1086, 1087, 1088,
	9541, 9542, 9564, 9565,			1089, 1090, 1091, 1092,
	9581, 9582			1093, 1098, 1099, 1100,
<code>\numberline</code>	7596, 7668, 14209,			1101, 1102, 1103, 1104,
	14214			1105, 1106, 1107, 1108,
<code>\numberwithin</code>	8146			1109, 1110, 1111, 1112,
<code>\numexpr</code>	1927, 1928, 1929, 1931,			1113, 1114, 1115, 1116,
	1937, 1945, 1946, 1947,			1117, 1118, 1119, 1120,
	1948, 1949, 1950, 1954,			1121, 1122, 1123, 1124,
	1956, 1960, 1962, 1964,			1125, 1126, 1127, 1128,
				1129, 1142, 1143, 1144,

1145, 1146, 1258, 1259, 1260, 2080, 2083, 2085, 2088, 5564, 5570, 5575, 5789, 7021, 7022, 7023, 7024, 7030, 7031, 7032, 7033, 8051, 8055, 10753, 14329, 14330, 14331, 14332, 14333, 14334, 14335, 14336, 14337, 14338, 14339, 14340, 14341, 14342, 14343, 14344, 14345, 14346, 14347, 14348, 14349, 14350, 14351, 14352, 14353, 14354, 14355, 14356, 14357, 14358, 14359, 14360	<code>\OrnamentDiamondSolid</code> . 19169	<code>\oslash</code> 18291, 20277	<code>\otimes</code> 18288, 20276	<code>\ovee</code> 18014, 20153	<code>\overlay</code> 7928	<code>\owedge</code> 18009, 20151	<code>\owns</code> 17951, 20900
P							
<code>\P</code> 522	<code>\p@</code> 1986, 1991, 5818, 5824, 9414, 9498, 9536, 9576, 10713, 11950, 12237, 12561, 13162, 13518	<code>\p@equation</code> 8124	<code>\PackageError</code> 61	<code>\PackageInfo</code> 8771, 12938	<code>\PackageWarning</code> . . 2636, 5775	<code>\pageautorefname</code> . . 2985, 3003, 3021, 3039, 3057, 3075, 3093, 3133, 3151, 3169, 3187, 3205, 3223, 3241, 3259, 3277, 8510, 8622	<code>\pagename</code> 8507
<code>\pageref</code> . 627, 4384, 6312, 6313, 6385, 6386, 8496, 8500	<code>\paperheight</code> . 4167, 9263, 9265, 9268, 9270, 9285, 9287, 9294, 9296, 10218, 10219, 10226, 10227, 10363, 10364, 10372, 10373, 11676, 11677, 11684, 11685	<code>\paperwidth</code> . 9259, 9261, 9272, 9274, 9284, 9286, 9293, 9295, 10217, 10219, 10225, 10227, 10362, 10365, 10371, 10374, 11675, 11677, 11683, 11685	<code>\par</code> 7595, 7623, 7666, 7676, 7814, 7834	<code>\paragraphautorefname</code> 2981, 2999, 3017, 3035, 3053, 3071, 3089, 3122, 3124, 3147, 3165, 3183, 3201, 3219, 3237, 3255, 3273, 8618	<code>\parallel</code> 18002, 20148	<code>\parenleftinferior</code> 20013	<code>\parenleftsuperior</code> 19997
<code>\parenrightinferior</code> 20014	<code>\parenrightsuperior</code> 19998	<code>\parr</code> 17711, 20888	<code>\partautorefname</code> . . 2975, 2993, 3011, 3029, 3047, 3065, 3083, 3113, 3141, 3159, 3177, 3195, 3213, 3231, 3249, 3267, 8612	<code>\partial</code> 17930, 20118	<code>\partnumberline</code> . 14211, 14216	<code>\PassOptionsToPackage</code> 2712, 2724, 2727, 2739, 2750, 2779, 2838, 2844, 2875, 2927, 2931, 2953, 4202, 4215, 4226, 4550	<code>\patchcmd</code> 7324
<code>\pdf@addtoks</code> . . . 11315, 11337, 11343, 11352, 11359, 11363, 11365, 11367, 11369, 11371, 11379, 11388, 11392, 11394, 11396, 11399, 11408, 11412, 11414, 11416, 11418, 11420, 11422, 11424, 11426, 11428, 11430, 11432, 11434, 11436, 11438, 11440, 11442, 11443, 11444, 11445, 11446, 11447, 11448, 11449, 11450, 11451, 11452, 11457	<code>\pdf@addtoksx</code> . . 11309, 11319, 11335	<code>\pdf@box</code> . 11237, 11269, 11277, 11285, 11286, 11289, 11293, 11295, 11298	<code>\pdf@defaulttoks</code> . 11193, 11313, 11314, 11324	<code>\pdf@docset</code> 11059	<code>\pdf@endanchor</code> 8906, 8947, 8954	<code>\pdf@escapestring</code> 8677	<code>\PDF@FinishDoc</code> . . . 2703, 2704, 2798, 2799, 4161, 4264, 4377, 4378, 4508, 4509, 6359, 6511, 6512, 9149, 9338, 9593, 10077, 10242, 10831, 11060, 11987, 12158
<code>\pdf@ifdraftmode</code> . . 6687, 8781, 9150, 9238, 13039, 14418	<code>\pdf@linktype</code> . . . 11217, 11221, 11329, 11330	<code>\pdf@objdef</code> 11196, 11210, 11212, 11226, 11228, 11332, 11333	<code>\pdf@rect</code> . 11204, 11223, 11241	<code>\PDF@SetupDoc</code> . . . 4160, 4263, 6278, 6279, 6358, 9080, 9339, 9626, 10119, 10243, 10768, 11113, 11871, 12020, 12159	<code>\PDF@SetupDox</code> 9080	<code>\pdf@toks</code> 11193, 11214, 11230, 11312, 11316, 11320	<code>\pdf@type</code> 11195, 11200, 11214, 11230, 11307, 11327
<code>\pdfbookmark</code> 2215, 6364, 6365, 14287, 14292, 14297, 14301	<code>\pdfcatalog</code> . . 6690, 8818, 9095, 9137, 13070	<code>\PDFdefaults</code> 11323	<code>\pdfdest</code> 8908	<code>\pdfendlink</code> 8944, 13142, 13236, 13251, 13278, 13303, 13327, 13350	<code>\pdfescapestring</code> 13829	<code>\pdfextension</code> . 2722, 4405, 4494	<code>\PDFForm@Name</code> 13837, 13840, 13844, 13847
<code>\PDFForm@Check</code> 12742, 12746, 13347, 13348, 13727, 13731, 13920	<code>\PDFForm@List</code> . 12641, 12646, 13248, 13249, 13613, 13618, 13981	<code>\PDFForm@Name</code> 13133, 13187, 13260, 13341, 13482, 13543, 13629, 13718, 13836	<code>\PDFForm@Push</code> . 12670, 12674, 13275, 13276, 13645, 13649, 13951	<code>\PDFForm@Radio</code> 12622, 12630, 13226, 13228, 13584, 13596, 14015	<code>\PDFForm@Reset</code> 12717, 12722, 13324, 13325, 13697, 13702, 14120	<code>\PDFForm@Submit</code> 12691, 12696, 13296, 13298, 13669, 13674, 14086	<code>\PDFForm@Text</code> . 12536, 12540, 13140, 13141, 13492, 13495, 14050

<code>\pdfhorigin</code>	9255	<code>\pdfstartlink</code>	8939, 8983, 9018, 9052, 9312, 13141, 13227, 13249, 13276, 13297, 13325, 13348	<code>\pm</code>	20732
<code>\pdfinfo</code>	9153	<code>\pdfstrcmp</code>	12964	<code>\pointer</code>	17915, 20111
<code>\pdflastannot</code>	8728	<code>\pdfstringdef</code>	491, 784, 3721, 3727, 3733, 3739, 3744, 3749, 3755, 3762, 3768, 3848, 5736, 5741, 5767, 6471, 6579, 6581, 7914, 7950, 13854, 14219	<code>\PointingHand</code>	18815, 20990
<code>\pdflastlink</code>	8731, 13005, 13018	<code>\pdfstringdefDisableCommands</code>	797, 903, 6362, 6464	<code>\Pointinghand</code>	18816, 20991
<code>\pdflastmatch</code>	4076	<code>\pdfstringdefPostHook</code>	780, 897	<code>\pounds</code>	15263, 20746
<code>\pdflastobj</code>	8725, 8796, 8811, 8817, 13069, 13390, 13399, 13409	<code>\pdfstringdefPreHook</code>	638, 897, 909, 6463, 6475	<code>\Preamble</code>	12286
<code>\pdflastxform</code>	8726, 12929, 12931	<code>\pdfstringdefWarn</code>	527, 528, 632, 912, 1417, 1422, 1441, 1445	<code>\prec</code>	18218, 20242
<code>\pdflastximage</code>	8727	<code>\pdftexversion</code>	13041	<code>\precapprox</code>	19453, 20675
<code>\pdflinkmargin</code>	8889, 8891	<code>\pdfvorigin</code>	9256	<code>\preccurlyeq</code>	18222, 20244
<code>\pdfliteral</code>	8869, 8871, 8876	<code>\pdfxform</code>	12927	<code>\preceq</code>	19429, 20663
<code>\pdfm@box</code>	9709, 13446, 13447, 13448, 13486, 13498, 13575, 13600, 13609, 13620, 13639, 13652, 13667, 13676, 13696, 13704, 13721, 13733	<code>\Peace</code>	19029, 20490	<code>\preceqq</code>	19441, 20669
<code>\pdfmajorversion</code>	2658, 2659, 2662, 2663	<code>\peh</code>	19845	<code>\precnapprox</code>	19461, 20679
<code>\pdfmark</code>	6810, 9646, 9655, 9685, 10901, 10921, 10960, 10995, 11012, 11046, 11083, 11095, 11126, 11135, 11166, 11190, 11466, 11481, 11496, 11508, 11515, 11542, 11573, 12033, 12042, 12073, 12496, 12505, 12537, 12626, 12643, 12671, 12693, 12719, 12743, 14450	<code>\penalty</code>	1531, 2242, 4860	<code>\precneq</code>	19437, 20667
<code>\pdfmark@</code>	11190, 11191	<code>\PencilRight</code>	19036, 20493	<code>\precneqq</code>	19449, 20673
<code>\pdfmatch</code>	325	<code>\PencilRightDown</code>	19034, 20492	<code>\precnsim</code>	18469, 20347
<code>\pdfminorversion</code>	8690	<code>\PencilRightUp</code>	19038, 20494	<code>\precsim</code>	18226, 20246
<code>\PDFNextPage</code>	11479	<code>\pentagon</code>	19508, 20698	<code>\PrerenderUnicode</code>	3712
<code>\PDFNextPage@</code>	11479, 11480	<code>\perp</code>	19177, 20559	<code>\prime</code>	17514, 19979
<code>\pdfobj</code>	8782, 8797, 8812, 13047, 13356, 13391, 13400	<code>\phantom</code>	583	<code>\process@me</code>	6443, 6455, 6456, 9083, 9092
<code>\pdfobjcompresslevel</code>	8708, 8764	<code>\phantomsection</code>	4162, 6366, 7993, 14155, 14206, 14586	<code>\ProcessKeyvalOptions</code>	4231
<code>\PDFOpen</code>	11507	<code>\Phi</code>	16397, 19933	<code>\prod</code>	17957, 20130
<code>\pdfoptionpdfminorversion</code>	8689	<code>\phi</code>	16464, 19957	<code>\prop</code>	2311, 2315, 2323
<code>\pdfoutline</code>	14496	<code>\phiinferior</code>	19970	<code>\propto</code>	17983, 20141
<code>\pdfpageattr</code> . . . . .	. . . . .	<code>\Phone</code> . . . . .	18790, 20415	<code>\protect</code>	1529, 4970, 5004, 7596, 7668, 7732, 7747, 7763, 7819, 7826, 7827, 8031, 8085, 8303, 8371, 8391, 8397, 8408, 8422, 8540, 9349, 9446, 10313, 10393, 11882, 12169, 14226, 14520
<code>\pdfpageheight</code>	9265, 9274, 9282, 9287, 9296	<code>\PhoneHandset</code>	19020, 20486	<code>\protected</code>	7259, 8036, 8037
<code>\pdfpageref</code>	13107	<code>\Pi</code>	19930	<code>\protected@edef</code> . . . . .	. . . . .
<code>\pdfpageresources</code>	8845, 8846	<code>\pi</code>	16452, 19951	<code>\protected@file@percent</code>	8031
<code>\pdfpagesattr</code>	9084, 9086, 9088	<code>\pinferior</code>	20025	<code>\protected@write</code>	2183, 5025, 5332, 7799, 8242, 8257, 8272, 8276, 8286, 14225
<code>\pdfpagewidth</code>	9261, 9270, 9281, 9286, 9295	<code>\Pisces</code>	18912, 21025	<code>\protected@xdef</code>	7437, 7531
<code>\PDFPreviousPage</code>	11492	<code>\pisces</code>	18910, 20453	<code>\providecommand</code> . . . . .	. . . . .
<code>\PDFPreviousPage@</code>	11493, 11495	<code>\pitchfork</code>	18427, 20328	<code>\dots</code>	473, 4492, 4813, 4956, 5319, 5378, 5380, 6395, 6669, 6694, 6828, 6867, 6869, 6871, 6874, 6875, 6876, 6878, 6879, 6880, 6881, 6883, 6884, 6885, 6886, 6887, 6888, 6897, 6898, 6899, 6900, 6901, 6902, 7276, 7697, 7698, 7713, 7983, 8603, 8604,
<code>\pdfrefobj</code>	13042, 13043, 13044	<code>\planck</code>	15554, 20761		
<code>\pdfrefxform</code>	12931	<code>\Plane</code>	19024, 20488		
		<code>\Plus</code>	19057, 20503		
		<code>\PlusCenterOpen</code>	19061, 20505		
		<code>\plusinferior</code>	20010		
		<code>\PlusOutline</code>	19055, 20502		
		<code>\plussuperior</code>	19994		
		<code>\PlusThinCenterOpen</code>	19059, 20504		
		<code>\Pluto</code>	18876, 21013		
		<code>\pluto</code>	18874, 20441		

8605, 8606, 8607, 8608, 8609, 8610, 8611, 8612, 8613, 8614, 8615, 8616, 8617, 8618, 8619, 8620, 8621, 8622, 8684, 8892, 8910, 8911, 9337, 9440, 9441, 9704, 9766, 9767, 9768, 10239, 10355, 10385, 10386, 10387, 10858, 11238, 11239, 11599, 11607, 11608, 11609, 11610, 11705, 11717, 11718, 11719, 11720, 11772, 11813, 11814, 11815, 11816, 11979, 11981, 11982, 12094, 12095, 12150, 12984, 12987, 13793	\rcurvearrowse . . . 19240, 20587 \Re 17673, 20033 \ReadBookmarks 4230, 4265, 4391, 4623, 4735, 4737, 14385, 14417 \real@setref 8368, 8435 \realfootnote 7528 \Rectangle 19173, 20557 \RectangleBold . . 19175, 20558 \RectangleThin . . 19171, 20556 \recycle 18949, 20460 \Recycling 18951, 21032 \Ref 8453, 8462, 8470 \ref 626, 4383, 6308, 6309, 6381, 6382, 7493, 7500, 8479, 8487, 12261 \ref@one 4979, 4980 \rEfLiNk 12262, 12263 \refstepcounter 6906, 6913, 6934, 7137, 7163, 7189, 7214, 7220, 7323, 7324, 7660 \rem@ptetc 10985, 10987 \renewcommand 2175, 8164, 8459, 8466, 8475, 8484, 14301 \Request 18554, 20382 \RequirePackage . 22, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 361, 927, 2613, 2698, 4208, 4224, 4689, 4741, 4948, 5381, 6348, 6485, 6735, 8742, 10240, 12155, 14311 \RerunFileCheck 14313 \Reset 6168 \reset@font . . 8372, 8392, 8409, 8541 \reve 15995, 19896 \reveject 16208, 20848 \revepsilon 16009, 19899 \revglotstop 16206, 19923 \Rewind 18759, 20402 \RewindToIndex . 18566, 20387 \RHD 18750, 20399 \rhd 18366, 20303 \rho 16454, 19952 \rhoinferior 19969 \hooknearrow . . 19222, 20580 \hookrepsilon 19900 \hookswarrow . . 19226, 20582 \Rightarrow 17877, 20095 \rightarrow 20045 \rightarrowtail . . 17791, 20062 \rightarrowtriangle 17922, 20114 \rightarrowbarharpoon . 19285, 20602	\RIGHTCIRCLE . 18773, 20408 \rightharpoondown 17832, 20078 \rightharpoonup . 17829, 20077 \rightleftarrows . 17841, 20081 \rightleftharpoon . 19258, 20593 \rightleftharpoons 17861, 20089 \rightModels 18349, 20947 \rightmodels 18338, 20945 \rightmoon 18842, 20433 \rightpointleft . . 18811, 20988 \rightrightarrow . 17853, 20086 \rightightharpoons 19273, 20598 \RightScissors . . . 19014, 21039 \rightslice 19427, 20662 \rightsquigarrow . 17902, 20106 \rightthreetimes . 18401, 20317 \RightTorque 19244, 21047 \Righttorque 19245, 21048 \rightVdash 18341, 20946 \rightvdash 18317, 20938 \rinferior 19964 \riota 17686, 20035 \risingdoteq 20200 \risingdotseq 18125 \rlap 5103, 8870, 9875 \rm 571 \rmfamily 561 \Roman 6635 \roman 6636 \romannumeral 919, 920, 13052 \rotm 16076, 20814 \rotOmega 16167, 20836 \rotr 16112, 20824 \rotvara 15975, 20786 \rotrw 16178, 20840 \roty 16182, 20842 \rrbracket 19192, 21046 \Rrightarrow 17898, 20104 \rrparenthesis . . . 19300, 20608 \rtaild 19895 \rtimes 18397, 20315 \rule 7478
Q		
\Q 1524, 13052 \qaf 19811 \quaternote 18934, 20454 \quotedblbase . . . 14766, 15007, 17495, 19605 \quotesinglbase . . 14776, 15009, 17489, 19607		
R		
\r . 14641, 14653, 14665, 14880, 14946, 15058, 15103, 15132, 15164, 15339, 15406, 15703, 15705, 17434, 17436 \ra 19787 \Radiation 18819, 20992 \Radioactivity . . . 18817, 20424 \raff 19831 \Rain 19000, 20479 \raise . . . 2249, 5106, 9415, 9499, 9537, 9577, 11303, 11951, 12238 \rangle 18524, 20371 \rbrackdbl 20565 \rcurvearrowdown 19247, 20589 \rcurvearrowleft . . 19251, 20590 \rcurvearrowne . . 19231, 20584 \rcurvearrowright 19254, 20591		
S		
\S 15274, 20749 \sad 19795 \Sagittarius 18903, 21022 \sagittarius 18901, 20450 \Saturn 18867, 21010 \saturn 18865, 20438 \sbox 3708, 5086, 5118, 6203, 9402, 9482, 9519, 9559, 11238, 11277, 11938, 12220, 12926		

\scd	17107, 19961	11697, 11764, 11858, 12142, 14539, 14607	\SnowflakeChevronBold .	19141, 20544	
\scdefault	4699		\sofpasuq	17040	
\scg	16030, 19902	\setminusminus	17973, 20137	\softsign	16681, 20859
\schwa	15998, 19897	\setpdfinkmargin ..	3902, 3903, 6777, 8885, 11695, 11762, 11856, 12140	\spacefactor	2222, 2228, 7396, 7405, 7557, 7559, 8895, 8903
\schwainferior	20019	\settowidth	12558, 13159, 13515	\spadesuit .	18913, 18915, 21026
\sci	16057, 19907	\SetupKeyvalOptions	2304, 4195	\Sparkle	19143, 20545
\ScissorHollowRight ...	19018, 20485	\seveninferior	20007	\SparkleBold	19145, 20546
\ScissorRight	19012, 20483	\sevensuperior	19991	\special@paper	4163
\ScissorRightBrokenBottom ..	19008	\sffamily	562	\SpecialDvipdfmxOutlineOpen	2756, 2758, 4591, 4598
\ScissorRightBrokenTop	19016, 20484	\shadda	19841	\sphericalangle ..	17992, 20145
\scn	16093, 19908	\sharp	18947, 20459	\splitmaxdepth	7471
\Scorpio	18900, 21021	\sheen	19793	\splittopskip	7470
\scorpio	18898, 20449	\shortciteN	7862	\sqcap	18278, 20272
\scr	16135, 19911	\shuffle	19338, 20623	\sqcup	18280, 20273
\scr@LT@array	7162	\Sigma	16391, 19931	\sqdoublecap	19365, 20635
\scripta	15968, 19893	\sigma	16458, 19954	\sqdoublecup	19370, 20637
\scriptg	16027, 19901	\sim	18053, 20169	\sqsubset	18262, 20264
\scriptsize	579	\simeq	18069, 20176	\sqsubsest	18270, 20268
\scriptv	16169, 19916	\sinferior	20026	\sqsubsestneq	18459, 20343
\scrollmode ..	1467, 1476, 1489, 1596, 1729	\SixFlowerAlternate ...	19125, 20536	\sqsupset	18266, 20266
\scshape	567	\SixFlowerAltPetal	19135, 20541	\sqsupseteq	18274, 20270
\scu	17125, 19962	\SixFlowerOpenCenter .	19121, 20534	\sqsupsetneq	18462, 20344
\scy	16183, 19920	\SixFlowerPetalRemoved	19118, 20533	\SquareCastShadowBottomRight	19164, 20553
\Searrow	17892, 20101	\sixinferior	20006	\SquareCastShadowTopRight .	19167, 20554
\searrow	17767, 20051	\SixStar	19108, 20528	\Squaredot	15310, 20752
\Sech	19567, 20714	\sixsuperior	19990	\squaredots	18046, 20166
\second	17516, 19980	\SixteenStarLight	19116, 20532	\SquareShadowBottomRight ..	19158, 20551
\sectionautorefname	2978, 2996, 3014, 3032, 3050, 3068, 3086, 3115, 3144, 3162, 3180, 3198, 3216, 3234, 3252, 3270, 8615	\sixteenthnote ...	18941, 20456	\SquareShadowTopRight .	19161
\seen	19791	\SK@	8597	\SquareTopRight	20552
\selectfont	547, 4699, 13079	\SK@ref	8597	\SS	15005, 19591
\SePa	19553, 20708	\SK@ref	8594	\ss ..	3025, 14934, 15020, 15394
\set@display@protect	4325	\skip@ ..	1546, 1629, 1630, 1633, 1635, 2269, 2275, 2288, 2294	\sslash	19505, 20697
\setbox	1532, 1538, 1544, 3442, 3448, 5090, 5103, 5963, 6493, 8860, 9848, 9865, 13486, 13575, 13609, 13639, 13667, 13696, 13721	\slashc	15959, 19892	\st@rredfalse	7197, 7206
\setcounter	4891	\slashdiv	19514, 20701	\star	18387, 20311
\setkeys	4866, 4911	\slide	7925	\stepcounter .	6923, 7299, 7397, 7530, 14222
\setlength	2246, 5074, 5975, 6779, 8887, 9255, 9256, 9261, 9265, 9270, 9274, 9281, 9282, 9286, 9287, 9295, 9296, 10359, 10360, 10364, 10365, 10373, 10374, 10713,	\SliTeX	539	\stockheight .	4167, 4397, 9280, 9282, 10214, 10215, 10358, 10359, 11672, 11673
		\slshape	568	\stockwidth ..	4396, 9279, 9281, 9292, 10213, 10215, 10224, 10357, 10360, 10370, 11671, 11673, 11682
		\small	580	\stop@hyper	6330
		\smallin	17947, 20126	\StringEncodingConvertTest	759, 769
		\smallowns	17955, 20129	\strip@period	2188
		\smash	2243		
		\smile	18518, 20368		
		\Smiley	18834, 20997		
		\smiley	18832, 20429		
		\Snowflake	19139, 20543		
		\SnowflakeChevron	19137, 20542		

<code>\textasciimacron</code> .	14645, 14657, 14669, 14835, 15111, 15140, 15290
<code>\textasciitilde</code> .	520, 4776, 14739, 15255
<code>\textast</code>	17976, 20138
<code>\textAsterisk</code>	19124, 20535
<code>\textAsteriskBold</code> .	19101, 20524
<code>\textasteriskcentered</code>	15198
<code>\textAsteriskCenterOpen</code> .	19103, 20525
<code>\textAsteriskRoundedEnds</code>	19148, 20547
<code>\textasympt</code>	18097, 20188
<code>\textbabygamma</code> .	16038, 19904
<code>\textbackcong</code> . . .	18093, 20186
<code>\textbackepsilon</code>	16514
<code>\textbackneg</code>	18499, 20359
<code>\textbackprime</code> . . .	17521, 19982
<code>\textbacksim</code>	18057, 20170
<code>\textbacksimeq</code> . . .	18404, 20318
<code>\textbackslash</code>	515, 693, 2041, 14720, 14722, 15236
<code>\textbaht</code>	17104
<code>\textbar</code>	14735, 15250, 15251, 20744
<code>\textbarb</code>	15742, 20765
<code>\textbarc</code>	15963, 20782
<code>\textbard</code>	15506, 20757
<code>\textbardbl</code>	17482, 17483, 20869
<code>\textbardotlessj</code> . . .	16020, 16021, 16022, 20798
<code>\textbarglotstop</code> . . .	16242, 16243
<code>\textbari</code>	16051, 16052, 16053, 19905, 20807
<code>\textbarin</code>	18495, 20357
<code>\textbarl</code>	15765, 15766, 19890
<code>\textbarleftharpoon</code> . . .	19283, 20601
<code>\textbaro</code>	16097, 16099
<code>\textbarp</code>	17149, 19973
<code>\textbarrevglotstop</code> . . .	16246, 16247
<code>\textbarrightharpoon</code> . . .	19289, 20603
<code>\textbarsci</code>	17147, 19972
<code>\textbarscu</code>	17152, 19974
<code>\textbaru</code>	16162, 16163, 16164, 19914, 20835
<code>\textbarwedge</code>	18386, 20310
<code>\textbbslash</code>	18573, 18574, 20388, 20971
<code>\textBeam</code>	18557, 20383
<code>\textbecause</code>	18042, 18043, 20164, 20911
<code>\textbeltl</code>	16063, 16064, 16065, 20810
<code>\textBeta</code>	16329, 16360
<code>\textbeta</code>	15020, 16425, 19937
<code>\textbetainferior</code>	17136, 19967
<code>\textbeth</code>	17699, 20038
<code>\textbetween</code>	18190, 20229
<code>\textbf</code>	554
<code>\textBicycle</code>	19586, 20722
<code>\textbigcircle</code>	15124, 15153, 18781, 18782, 20411, 20982
<code>\textbigdoublevee</code>	19345, 20626
<code>\textbigdoublewedge</code>	19343, 20625
<code>\textbigtriangledown</code>	18757, 18758, 20401, 20980
<code>\textbigtriangleup</code>	18742, 18743, 18744, 20396, 20977, 20978
<code>\textBiohazard</code>	18821, 20425
<code>\textblacksmiley</code>	18836, 20430
<code>\textblank</code>	18569
<code>\textbot</code>	18330, 18331, 20291, 20942
<code>\textbowtie</code>	18392, 18393, 20313, 20959
<code>\textboxast</code>	19329, 20618
<code>\textboxbackslash</code>	18539, 20376
<code>\textboxbar</code>	18779, 20410
<code>\textboxbox</code>	19333, 20620
<code>\textboxbslash</code>	19327, 20617
<code>\textboxcircle</code>	19331, 20619
<code>\textboxdot</code>	18314, 20285
<code>\textboxempty</code>	18794, 18795, 20416, 20984
<code>\textboxminus</code>	18310, 20283
<code>\textboxplus</code>	18308, 20282
<code>\textboxslash</code>	19325, 20616
<code>\textboxtimes</code>	18312, 20284
<code>\textbraceleft</code>	513, 2042, 14733, 15248
<code>\textbraceright</code>	514, 2042, 14737, 15253
<code>\textbrokenbar</code>	14817, 15269, 15270, 20747
<code>\textbullet</code>	14741, 17504, 19977
<code>\textbulletoperator</code>	17980
<code>\textbullseye</code>	16217, 16218, 16219, 16220, 20851, 20852
<code>\textBumpeq</code>	18102, 20190
<code>\textbumpeq</code>	18106, 20192
<code>\textcancer</code>	18887, 18888, 20445, 21017
<code>\textCap</code>	18422, 18423, 20326, 20962
<code>\textcap</code>	18018, 20154
<code>\textcapdot</code>	19369, 20636
<code>\textcapricornus</code>	18905, 18906, 20451, 21023
<code>\textccnc</code>	19595, 20725
<code>\textccnd</code>	19597
<code>\textccsa</code>	19599, 20726
<code>\textcdj</code>	16231
<code>\textcdot</code>	15019, 19617, 20733
<code>\textcdots</code>	18489, 20354
<code>\textcedilla</code>	14644, 14656, 14668, 14853, 15106, 15135, 15312
<code>\textcelsius</code>	15006, 17659
<code>\textcent</code>	14809, 15259
<code>\textcentoldstyle</code>	15961, 20781
<code>\textCESign</code>	19603, 19604, 20728, 21077
<code>\textCheckedbox</code>	18797, 18798, 20417, 20985
<code>\textCheckmark</code>	19045, 19046, 20497, 21043
<code>\textCheckmarkBold</code>	19048, 20498
<code>\textChi</code>	16400
<code>\textchi</code>	3193, 16467, 19958
<code>\textchiinferior</code>	17144, 19971
<code>\textcirc</code>	17978, 20139
<code>\textcirceq</code>	18138, 20206
<code>\textcircleftarrow</code>	19195, 20566
<code>\textcircrightarrow</code>	19197, 20567
<code>\textcircled</code>	15095, 15124, 15153, 18576, 18578, 18580, 18582, 18584, 18586, 18588, 18590, 18592, 18594, 18596, 18598, 18600, 18602, 18604, 18606, 18608, 18610, 18612, 18614, 18616, 18621, 18623, 18625, 18627, 18629, 18635, 18637, 18639, 18641, 18643, 18645, 18647, 18649, 18651, 18653, 18659, 18661, 18663, 18665, 18667, 18669, 18671, 18673, 18675, 18677, 18679, 18681, 18683, 18685, 18687, 18689, 18691, 18693, 18695, 18697, 18699, 18701, 18703, 18705, 18707, 18709, 18711, 18713, 18715, 18717, 18719, 18721, 18723, 18725, 18727, 18729, 18731
<code>\textCircledA</code>	18618, 18619, 20389, 20972

<code>\textcircledast</code> . . .	18302, 18303, 18304, 20280, 20936, 20937
<code>\textcircledcirc</code> . .	18298, 18299, 18300, 20279, 20934, 20935
<code>\textcircled{d}</code> . .	18306, 20281
<code>\textcircled{P}</code>	17669
<code>\textCircleShadow</code>	19156, 20550
<code>\textcircled{+}</code>	19352, 20629
<code>\textcircled{\smile}</code>	14688
<code>\textcircled{\smile}</code> . .	15117, 15146, 19540
<code>\textCleaningF</code> . .	18631, 20390
<code>\textCleaningFF</code> .	18633, 20391
<code>\textCleaningP</code> . .	18655, 20392
<code>\textCleaningPP</code> .	18657, 20393
<code>\textclock</code>	18505, 18506, 18507, 20362, 20968, 20969
<code>\textcloseepsilon</code> .	16224, 16225
<code>\textcloseomega</code> . .	16103, 16104, 16105, 16106, 20821, 20822
<code>\textcloserevepsilon</code>	16016, 16017, 16018, 20797
<code>\textCloud</code>	18785, 20412
<code>\textClowerTips</code> .	19081, 20514
<code>\textclubsuitblack</code> .	2163, 18924, 18925, 21030
<code>\textclubsuitwhite</code>	18933
<code>\textCoffeecup</code> . . .	18804, 20419
<code>\textcoloncolonequals</code> . .	19389, 20644
<code>\textcolonequals</code> .	18130, 20202
<code>\textcolonmonetary</code>	17629
<code>\textcolor</code>	592, 13037, 13084, 13087, 13418
<code>\textcommatailz</code> .	15929, 15930
<code>\textcomplement</code> .	17929, 20117
<code>\textcompwordmark</code>	17476
<code>\textcong</code>	18074, 20178
<code>\textcopyleft</code>	19592, 19593
<code>\textcopyright</code>	14823, 15278, 19880
<code>\textcorner</code>	16317, 16318
<code>\textCR</code>	14682, 15176
<code>\textcrb</code>	15738, 15739, 15740, 15742, 15743, 20764, 20765, 20766
<code>\textcrd</code>	15501, 15503, 15504, 15506, 15507, 20756, 20757, 20758
<code>\textcrg</code>	15831, 20778
<code>\textcrh</code>	15552, 20759
<code>\textcrinvglotstop</code>	15792, 15793
<code>\textcrlambda</code> . . .	15769, 15770, 15771, 15772, 15773, 15774, 20770, 20771, 20772, 20773
<code>\textCross</code>	19064, 20506
<code>\textCrossedbox</code> .	18800, 18801, 18802, 20418, 20986, 20987
<code>\textCrossMaltese</code>	19070, 20509
<code>\textCrossOpenShadow</code> .	19066, 20507
<code>\textCrossOutline</code>	19068, 20508
<code>\textcrtwo</code>	15789, 15790
<code>\textctc</code>	15984, 15985, 15986, 20790
<code>\textctd</code>	15927, 15928
<code>\textctesh</code>	16151, 16152, 16153, 20832
<code>\textctj</code>	16232, 16233, 20853
<code>\textctjvar</code>	16233, 20853
<code>\textctn</code>	15947, 15948
<code>\textctt</code>	15949, 15950
<code>\textctyogh</code>	16196, 16197, 16198, 20845
<code>\textctz</code>	16189, 16190, 16191, 20844
<code>\textCup</code>	18425, 18426, 20327, 20963
<code>\textcup</code>	18020, 20155
<code>\textcupdot</code>	18259, 20262
<code>\textcupplus</code>	18261, 20263
<code>\textcurlyeqprec</code> .	18444, 20335
<code>\textcurlyeqsucc</code> .	18448, 20337
<code>\textcurlyvee</code>	18408, 18409, 20320, 20960
<code>\textcurlywedge</code> . .	18411, 18412, 20321, 20961
<code>\textcurrency</code> . . .	14813, 15265
<code>\textcurvearrowleft</code>	17813, 20071
<code>\textcurvearrowright</code> . . .	17815, 20072
<code>\textCuttingLine</code> .	18733, 18734, 18735, 18736, 20394, 20973, 20974, 20975
<code>\textdagger</code>	14743, 17497, 17498, 19976, 20870
<code>\textdaggerdbl</code> . . .	14745, 17500, 17501, 17502, 20871, 20872
<code>\textdaleth</code>	17703, 20040
<code>\textdanger</code>	18975, 20471
<code>\textdasheddownarrow</code> .	17914, 20110
<code>\textdasheduparrow</code>	17909, 20108
<code>\textdashleftarrow</code>	17906, 17907, 20107, 20897
<code>\textdashrightarrow</code>	17911, 17912, 20109, 20898
<code>\textDashV</code>	19487, 19488, 20689, 21066
<code>\textDashv</code>	19480, 19481, 20687, 21064
<code>\textdashV</code>	19474, 19475, 20685, 21062
<code>\textdashv</code>	18319, 18320, 20287, 20939
<code>\textDavidStar</code> . . .	19072, 19073, 20510, 21044
<code>\textdblig</code>	15953, 15955, 20779
<code>\textdctzlig</code>	16254, 16255
<code>\textddagger</code>	14746
<code>\textddots</code>	18493, 20356
<code>\textdegree</code>	14837, 15006, 15292
<code>\textDeatur</code>	17652, 17653, 20028, 20883
<code>\textDelta</code>	16364, 19926
<code>\textdelta</code>	3205, 16429, 19939
<code>\textdexiakraia</code>	16336
<code>\textDiamondSolid</code>	19170, 20555
<code>\textdiameter</code> . . .	18497, 20358
<code>\textdiamond</code>	18767, 18768, 20405, 20981
<code>\textdiamonddots</code>	17543, 19985
<code>\textdiamondsuitblack</code> . . .	2164, 18931
<code>\textdiamondsuitwhite</code> .	18921, 18922, 21029
<code>\textDigamma</code>	16495
<code>\textdigamma</code>	16498
<code>\textDigammagreek</code>	16494
<code>\textdigammagreek</code>	16497, 16499, 20857
<code>\textdiscount</code>	17537
<code>\textdiv</code>	15017, 19615, 20731
<code>\textdivide</code>	14986, 15017, 15447, 19615
<code>\textdivideontimes</code>	18390, 20312
<code>\textDivides</code>	17970, 20135
<code>\textDividesNot</code> . . .	17972, 20136
<code>\textdivorced</code>	18989
<code>\textdlsh</code>	17810, 20070
<code>\textdollar</code>	517, 14704, 15182, 15183, 15184, 20739, 20740
<code>\textdong</code>	17639
<code>\textdotaccent</code> . . .	14643, 14655, 14667, 14690, 15105, 15134, 16299
<code>\textdotbelow</code> . . .	14647, 14659, 14671, 14714, 15121, 15150, 16324

<code>\textdottdiv</code>	18050, 20912	<code>\textEightAsterisk</code>	19154, 20549	<code>\textEightAsterisk</code>	20878, 20879, 20880, 20881, 20882
<code>\textdoteq</code>	18110, 20194	<code>\textEightFlowerPetal</code> . .	19132, 20539	<code>\textEightFlowerPetal</code>	
<code>\textdoteqdot</code> . . .	18115, 18116, 20196, 20918	<code>\textEightFlowerPetalRemoved</code>		<code>\textexclamdown</code> . . .	731, 14807, 15257
<code>\textdotminus</code> . . .	18049, 18050, 20167, 20912	. . . . .	19151, 20548	<code>\textexists</code>	17933, 20119
<code>\textdotplus</code>	17968, 20134	<code>\texteightinferior</code> .	17589, 20008	<code>\textfallingdoteq</code> .	18121, 20198
<code>\textdottimes</code> . . .	19357, 20631	<code>\textEightStar</code> . . .	19111, 20529	<code>\textfatsemi</code>	19350, 20628
<code>\textdoublebarpipe</code>	15805, 15806, 15807, 20777	<code>\textEightStarBold</code>	19113, 20530	<code>\textFax</code> .	19581, 19582, 20720, 21076
<code>\textdoublebarpipevar</code> . .	15807, 20777	<code>\textEightStarConvex</code> . .	19107, 20527	<code>\textfax</code>	17705, 20041
<code>\textdoublebarwedge</code> . . .	19380, 20640	<code>\textEightStarTaper</code> . . .	19105, 20526	<code>\textfemale</code>	18849, 21000
<code>\textdoublegrave</code> .	15109, 15138, 16320	<code>\teightsuperior</code>	17557, 19992	<code>\textFemaleFemale</code>	18977, 20472
<code>\textdoublepipe</code> . .	15801, 15802, 15803, 20776	<code>\texteinferior</code>	17605, 20016	<code>\textFemaleMale</code> .	18981, 20474
<code>\textdoublepipevar</code>	15803, 20776	<code>\textell</code>	17665, 20031	<code>\textfi</code>	729, 14780, 19542
<code>\textdoublevee</code> . . .	19376, 19377, 20639, 21061	<code>\textellipsis</code> . . .	523, 524, 14748, 17508, 17509, 20873	<code>\TextField</code>	6150
<code>\textdoublevertline</code>	17483, 20869	<code>\textemdash</code> .	727, 14750, 17480	<code>\textFinv</code>	17695, 20036
<code>\textdoublewedge</code>	19374, 20638	<code>\textemptyset</code> . . .	17937, 17938, 20121, 20899	<code>\textFire</code>	19584, 20721
<code>\textDOWNarrow</code>	18753, 18754, 20400, 20979	<code>\textEncodingNoboundary</code>	526, 19859	<code>\textfishhookr</code> . . .	16128, 16129, 16130, 16131, 20829, 20830
<code>\textDownarrow</code> .	17881, 20096	<code>\textendash</code> . .	728, 14752, 17478	<code>\textfivedots</code>	19519, 20702
<code>\textdownarrow</code> . .	17755, 17756, 17757, 20046, 20891, 20892	<code>\textEnvelope</code> . . .	19027, 19028, 20489, 21041	<code>\textfiveeighths</code>	17739
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\textEpsilon</code>	3190, 16343, 16366	<code>\textFiveFlowerOpen</code> . .	19130, 20538
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\textepsilong</code> . .	3191, 3192, 3195, 3197, 3198, 3199, 3200, 3204, 3205, 16414, 16431, 19940	<code>\textFiveFlowerPetal</code> . . .	19128, 20537
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqcirc</code>	18134, 20204	<code>\textfiveinferior</code> . .	17583, 20005
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqcolon</code>	18052, 20168	<code>\textfivesixths</code>	17733
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqdot</code>	19385, 20642	<code>\textFiveStar</code>	18787, 20413
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqsim</code>	18066, 20174	<code>\textFiveStarCenterOpen</code>	19089, 20518
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantgt</code> . .	19424, 20660	<code>\textFiveStarConvex</code> . . .	19097, 20522
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarOpen</code>	18789, 20414
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarOpenCircled</code>	19087, 20517
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarOpenDotted</code>	19091, 20519
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarOutline</code> . . .	19093, 20520
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarOutlineHeavy</code> . . .	19095, 20521
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFiveStarShadow</code> . . .	19099, 20523
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textfivesuperior</code> .	17551, 19989
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textfi</code>	730, 14782, 19544
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textFlag</code> .	18955, 18956, 20462, 21033
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textflat</code>	18944, 20457
<code>\textdownarrownarrow</code> . .	17856, 20087	<code>\texteqslantless</code> . .	19422, 20659	<code>\textflorin</code>	

<code>\textForwardToIndex</code> . . .	18564, 20386	<code>\textgtrapprox</code> . . .	19403, 20651	<code>\texththeng</code>	16047, 16048, 16049, 20806
<code>\textFourAsterisk</code>	19075, 20511	<code>\textgtrdot</code>	18432, 20330	<code>\texthtk</code> .	15761, 15762, 15763, 20769
<code>\textfourfifths</code>	17729	<code>\textgtreqless</code> . . .	18442, 20334	<code>\texthtp</code>	15779, 15780
<code>\textfourinferior</code> .	17581, 20004	<code>\textgtreqqlless</code> . .	19420, 20658	<code>\texthtq</code>	16239, 16240
<code>\textFourStar</code> . . .	19083, 20515	<code>\textgttrless</code>	18213, 20239	<code>\texthtrtaild</code>	17156, 17157, 19975
<code>\textFourStarOpen</code>	19085, 20516	<code>\textgttrsimsim</code>	18204, 18205, 20235, 20928	<code>\texthtscg</code>	16227, 16228
<code>\textfoursuperior</code> .	17549, 19988	<code>\textguarani</code>	17657	<code>\texthtt</code>	15784, 15785
<code>\textfourth</code>	17541, 19984	<code>\texthalflength</code> . .	16294, 16295	<code>\texthungarumlaut</code>	14692, 15112, 15141, 16307
<code>\textfractionsolidus</code>	14756, 17531	<code>\texthalfnote</code>	19561, 19562, 20711, 21074	<code>\texthvlig</code>	15756, 15757, 15758, 20768
<code>\textfrown</code>	18517, 20367	<code>\textHandCuffLeft</code>	18806, 20420	<code>\textiint</code>	18027, 20158
<code>\textfrownie</code>	18830, 18831, 20428, 20996	<code>\textHandCuffRight</code> . . .	18808, 20421	<code>\textiinferior</code>	17128, 19963
<code>\textfrq</code>	617, 15014, 19612	<code>\textHandLeft</code> . . .	18810, 18811, 20422, 20988	<code>\textiint</code>	18025, 20157
<code>\textfrqq</code>	615, 15012, 19610	<code>\textHandRight</code> . .	18813, 18814, 18815, 18816, 20423, 20989, 20990, 20991	<code>\textlm</code>	17663, 20030
<code>\textfullnote</code>	19558, 19559, 20710, 21073	<code>\textHaPa</code>	19548, 20705	<code>\textin</code>	17944, 20124
<code>\textGame</code>	17707, 20042	<code>\texthateq</code>	18142, 18143, 18144, 20208, 20919, 20920	<code>\textInfo</code>	19601, 20727
<code>\textGamma</code>	16362, 19925	<code>\texthausaB</code>	15745, 19887	<code>\textinfty</code>	17987, 20142
<code>\textgamma</code> . . .	3201, 3202, 3203, 16427, 19938	<code>\texthausaD</code>	15749, 19888	<code>\textint</code> . .	18022, 18023, 20156, 20909
<code>\textgammainferior</code>	17138, 19968	<code>\texthausaK</code>	15760, 19889	<code>\textinterleave</code> . . .	19504, 20696
<code>\textGaPa</code>	19546, 20704	<code>\texthbar</code> .	15551, 15552, 15553, 15554, 19886, 20759, 20760, 20761	<code>\textinterrobang</code>	17529
<code>\textge</code>	18167, 20218	<code>\texthdotfor</code>	17506, 19978	<code>\textinterrobangdown</code> . .	19516, 19517
<code>\textgemini</code>	18884, 18885, 20444, 21016	<code>\textheartsuitblack</code>	2165, 18929	<code>\textinvamp</code>	17709, 17710, 17711, 20887, 20888
<code>\textGentsroom</code> . .	19588, 20723	<code>\textheartsuitwhite</code>	18917, 18918, 18919, 21027, 21028	<code>\textinvbackneg</code> . .	18503, 20361
<code>\textgeq</code> .	18166, 18168, 20217, 20926	<code>\textheng</code> .	19525, 19527, 21069	<code>\textinvbreve</code>	15071, 15114, 15143, 15878, 15880, 15891, 15893, 15894, 15904, 15906, 15920, 15922
<code>\textgeqq</code>	18174, 20221	<code>\textHermaphrodite</code> . . .	18983, 20475	<code>\textinvdiameter</code> .	19303, 20609
<code>\textgeqslant</code>	19395, 20647	<code>\texthexagon</code>	18559, 20384	<code>\textinve</code>	15826, 19891
<code>\textgg</code>	18186, 20227	<code>\texthexstar</code>	18994, 20477	<code>\textinvglotstop</code> . .	16210, 16211, 19924
<code>\textggg</code>	18436, 20332	<code>\texthinferior</code>	17613, 20020	<code>\textinvneg</code>	19364, 20634
<code>\textgimel</code>	17701, 20039	<code>\texthookleftarrow</code>	17796, 20064	<code>\textinvscr</code> .	16138, 16139, 19912
<code>\textglobfall</code>	17769, 20894	<code>\texthookrightarrow</code> . . .	17798, 20065	<code>\textIota</code> . .	16347, 16374, 16408
<code>\textglobrise</code>	17766, 20893	<code>\textHslash</code>	15549	<code>\textiota</code>	3190, 3191, 3192, 3194, 3197, 3205, 16418, 16439, 16473, 19944
<code>\textglotstop</code>	16200, 16201, 16202, 16203, 19922, 20846, 20847	<code>\texthslash</code>	17661, 20029	<code>\textIotadieresis</code> .	16356, 16407
<code>\textglq</code>	612, 15009, 19607	<code>\textHT</code>	14678, 15172	<code>\textipagamma</code> . .	16034, 16035, 19903, 20801
<code>\textglqq</code>	610, 15007, 19605	<code>\texthtb</code> .	15976, 15977, 15978, 15979, 20787, 20788	<code>\textisuperior</code> . . .	17547, 19987
<code>\textgnapprox</code> . . .	19414, 20656	<code>\texthtd</code> .	15990, 15991, 15992, 15993, 20792, 20793	<code>\textit</code>	556
<code>\textgneq</code>	19410, 20654	<code>\texthtg</code> . .	16023, 16024, 16025, 20799	<code>\textJackStar</code> . . .	19077, 20512
<code>\textgneqq</code>	18180, 20224	<code>\texthth</code> .	16043, 16044, 16045, 16046, 20804, 20805	<code>\textJackStarBold</code>	19079, 20513
<code>\textgnsim</code>	18468, 20346			<code>\textjinferior</code>	19513, 20700
<code>\textgravedbl</code>	16312			<code>\textJoin</code>	19348, 20627
<code>\textgravemacron</code>	15097, 15126, 15155, 17207, 17210, 17311, 17314			<code>\textjupiter</code>	18863, 18864, 20437, 21009
<code>\textgreater</code>	14718, 15232				
<code>\textgrq</code>	613, 15010, 19608				
<code>\textgrqq</code>	611, 15008, 19606				
<code>\textGslash</code>	15828				
<code>\textgslash</code>	15830, 15831, 20778				

<code>\textKappa</code>	16376	<code>\textlengthmark</code> .	16291, 16292	<code>\textlongmapsto</code> .	19211, 20574
<code>\textkappa</code> ..	3192, 3194, 3197, 16441, 19945	<code>\textleo</code> ..	18890, 18891, 20446, 21018	<code>\textLongrightarrow</code> ...	19207, 20572
<code>\textKeyboard</code> ...	18521, 20369	<code>\textleq</code> ..	18161, 18163, 20215, 20925	<code>\textlongrightarrow</code>	19201, 20569
<code>\textkinferior</code>	17615, 20021	<code>\textleqq</code>	18170, 20219	<code>\textlongs</code>	15737, 17438
<code>\textKoppa</code>	16501	<code>\textleqslant</code>	19391, 20645	<code>\textlooparrowleft</code>	17800, 20066
<code>\textkoppa</code>	16504	<code>\textless</code>	14716, 15230	<code>\textlooparrowright</code>	17802, 20067
<code>\textKoppagreek</code>	16502	<code>\textlessapprox</code> ..	19399, 20649	<code>\textlozenge</code>	18770, 20406
<code>\textkoppagreek</code>	16505	<code>\textlessdot</code>	18430, 20329	<code>\textlptr</code>	16277, 16278
<code>\textkra</code>	15593	<code>\textlesseqgtr</code> ...	18439, 20333	<code>\textlquill</code>	17533
<code>\textLadiesroom</code> .	19590, 20724	<code>\textlesseqqgtr</code> ..	19417, 20657	<code>\textlrcorner</code>	18515, 20366
<code>\textLambda</code>	16378, 19928	<code>\textlessgtr</code>	18211, 20238	<code>\textltailm</code>	16081, 16082, 16083, 16084, 20816, 20817
<code>\textlambda</code>	3197, 3205, 16443, 19946	<code>\textlessssim</code>	18201, 18202, 20234, 20927	<code>\textltailn</code>	16085, 16086, 16087, 16088, 20818, 20819
<code>\textlangle</code>	18523, 20370	<code>\textLF</code>	14680, 15174	<code>\textltilde</code>	16060, 16061, 16062, 20809
<code>\textlatin</code>	602, 7063	<code>\textLHD</code>	18765, 20404	<code>\textltimes</code>	18395, 20314
<code>\textlbrackdbl</code> ...	19188, 19189, 20564, 21045	<code>\textlhd</code> ..	18364, 18365, 20302, 20953	<code>\textlyoghlig</code>	16070, 16071, 16072, 20812
<code>\textlcurvedarrowdown</code> ..	19243, 19244, 19245, 20588, 21047, 21048	<code>\textlhookfour</code> ...	19528, 19530, 21070	<code>\textmacronbelow</code>	14646, 14658, 14670, 14727, 15120, 15149, 16326
<code>\textlcurvedarrowse</code>	19235, 20585	<code>\textlhooknarrow</code>	19221, 20579	<code>\textmale</code>	18858, 18859, 18860, 18861, 20436, 21006, 21007, 21008
<code>\textlcurvedarrowsw</code>	19238, 20586	<code>\textlhooksearrow</code>	19225, 20581	<code>\textMaleMale</code> ...	18979, 20473
<code>\textle</code>	18162, 20216	<code>\textlhookt</code>	15782, 15783	<code>\textManFace</code> ...	19576, 20718
<code>\textleadsto</code>	19229, 20583	<code>\textlhtlongi</code>	16133, 16134	<code>\textmanstar</code> ...	18973, 20470
<code>\textLeftarrow</code> ...	17873, 20093	<code>\textlhtlongy</code>	16265, 16266	<code>\textmapsto</code>	17794, 20063
<code>\textleftarrow</code> ...	17747, 20043	<code>\textlibra</code> .	18896, 18897, 20448, 21020	<code>\textmarried</code>	18987
<code>\textleftarrowtail</code> .	17790, 20061	<code>\textlightning</code> ...	17806, 17807, 20069, 20895	<code>\textmd</code>	555
<code>\textleftarrowtriangle</code> ..	17921, 20113	<code>\textlinferior</code>	17617, 20022	<code>\textmeasuredangle</code>	17991, 20144
<code>\textleftbarharpoon</code>	19280, 20600	<code>\textlira</code>	17631	<code>\textmercury</code>	18845, 18846, 20434, 20999
<code>\textLEFTCIRCLE</code>	18772, 20407	<code>\textll</code>	18182, 20225	<code>\textmho</code> .	17684, 17685, 20034, 20884
<code>\textleftharpoondown</code> ..	17821, 20074	<code>\textllcorner</code>	18513, 20365	<code>\textmid</code>	17998, 20146
<code>\textleftharpoonup</code>	17818, 20073	<code>\textLleftarrow</code> ..	17897, 20103	<code>\textMineSign</code> ...	18958, 20463
<code>\textleftleftarrows</code>	17850, 20084	<code>\textlll</code>	18434, 20331	<code>\textminferior</code> ...	17619, 20023
<code>\textleftleftharpoons</code> ...	19268, 20596	<code>\textllparenthesis</code> .	19299, 20607	<code>\textminus</code>	14762, 17964
<code>\textleftmoon</code> ...	18841, 20432	<code>\textlnapprox</code> ...	19412, 20655	<code>\textminusdot</code> ...	19354, 19355, 20630, 21058
<code>\textLeftrightarrow</code>	17884, 20097	<code>\textlneq</code>	19407, 20653	<code>\textminusinferior</code>	17595, 20011
<code>\textleftrightarrow</code> .	2168, 17759, 20047	<code>\textlneqq</code>	18178, 20223	<code>\textminussuperior</code>	17563, 19995
<code>\textleftrightharpoons</code>	17848, 20083	<code>\textlnot</code>	14831, 15286	<code>\textmoo</code>	19297, 20606
<code>\textleftrightharpoonutriangle</code>	17925, 20115	<code>\textlnsim</code>	18466, 20345	<code>\textMoon</code>	19574, 20717
<code>\textleftrightharpoon</code> ...	19257, 20592	<code>\textlogicalnot</code> ...	14830, 15015, 15285, 19613	<code>\textMountain</code> ...	19005, 20481
<code>\textleftrightharpoons</code> ..	17859, 20088	<code>\textLongleftarrow</code>	19205, 20571	<code>\textmp</code>	17966, 20133
<code>\textleftslice</code>	19426, 20661	<code>\textlongleftarrow</code>	19199, 20568	<code>\textMu</code>	3195, 16380
<code>\textleftspoon</code> ...	19186, 20563	<code>\textLongleftrightarrow</code> .	19209, 20573	<code>\textmu</code> .	3191, 3192, 3193, 3196, 3203, 3204, 14847, 15303, 19947
<code>\textleftsquigarrow</code>	17901, 20105	<code>\textlongleftrightarrow</code> .	19203, 20570	<code>\textmugreek</code>	16445, 19948
<code>\textlefttherefore</code> .	17539, 19983	<code>\textlonglegr</code>	16121, 16122, 16123, 19910, 20827		
<code>\textleftthreetimes</code>	18400, 20316	<code>\textLongmapsfrom</code>	19213, 20575		
		<code>\textLongmapsto</code> .	19215, 20576		

<code>\textmultimap</code> . . .	18382, 20308	<code>\textnDoteq</code> . . .	18118, 20197	<code>\textnless</code>	18192, 20230
<code>\textmultimapboth</code>	19337, 20622	<code>\textndoteq</code>	18112, 20195	<code>\textnlessapprox</code> .	19401, 20650
<code>\textmultimapdotbothA</code>	18378, 20306	<code>\textndownmodels</code>	19495, 20692	<code>\textnlessgtr</code>	18217, 20241
<code>\textmultimapdotbothB</code>	18380, 20307	<code>\textndownvdash</code> .	18328, 20290	<code>\textnlesssim</code>	18207, 20236
<code>\textmultiply</code>	14917, 15016, 15375, 15376, 15377, 19614, 20753, 20754	<code>\textne</code>	18151, 20212	<code>\textnll</code>	18184, 20226
<code>\textMundus</code>	19572, 20716	<code>\textNearrow</code>	17891, 20100	<code>\textnmid</code>	18000, 18001, 20147, 20906
<code>\textmusicalnote</code> .	18936, 18937, 18938, 21031	<code>\textnearrow</code>	17765, 17766, 20050, 20893	<code>\textNoChemicalCleaning</code>	19317, 20613
<code>\textMVAt</code>	15234, 19879	<code>\textneg</code> . .	15015, 19613, 20729	<code>\textnormal</code>	550
<code>\textMVComma</code> .	15202, 19865	<code>\textneptune</code>	18872, 18873, 20440, 21012	<code>\textnotbackslash</code>	18537, 20375
<code>\textMVDivision</code> .	15208, 19868	<code>\textneq</code> .	18150, 18152, 20211, 20921	<code>\textnotin</code>	17946, 20125
<code>\textMVEight</code> . . .	15226, 19877	<code>\textneqcirc</code>	18136, 20205	<code>\textnotowner</code> . . .	17953, 17954, 20128, 20901
<code>\textMVFive</code>	15220, 19874	<code>\textneqdot</code>	19387, 20643	<code>\textnotperp</code>	19180, 20560
<code>\textMVFour</code>	15218, 19873	<code>\textneqsim</code>	18068, 20175	<code>\textnotslash</code>	18534, 20374
<code>\textMVMinus</code> . . .	15204, 19866	<code>\textnequiv</code>	18157, 18158, 18159, 20214, 20923, 20924	<code>\textnoway</code>	19003, 20480
<code>\textMVNine</code>	15228, 19878	<code>\textneswarrow</code> . .	19219, 20578	<code>\textnparallel</code> . . .	18005, 18006, 20149
<code>\textMVOne</code>	15212, 19870	<code>\textNeutral</code>	18985, 20476	<code>\textnprec</code>	18235, 20250
<code>\textMVPeriod</code> . .	15206, 19867	<code>\textnewtie</code>	15123, 15152, 16322	<code>\textnprecapprox</code> .	19456, 20676
<code>\textMVPlus</code>	15200, 19864	<code>\textnexists</code>	17935, 20120	<code>\textnpreccurlyeq</code>	18452, 20339
<code>\textMVSeven</code> . . .	15224, 19876	<code>\textnfallingdoteq</code>	18123, 20199	<code>\textnpreceq</code>	19432, 20664
<code>\textMVSix</code>	15222, 19875	<code>\textngeq</code>	18199, 20233	<code>\textnpreceqq</code> . . .	19444, 20670
<code>\textMVThree</code> . . .	15216, 19872	<code>\textngeqq</code>	18176, 20222	<code>\textnprecsim</code> . . .	18229, 20247
<code>\textMVTwo</code>	15214, 19871	<code>\textngeqslant</code> . . .	19397, 20648	<code>\textnqsubsetq</code> . . .	18456, 20341
<code>\textMVZero</code>	15210, 19869	<code>\textngg</code>	18188, 20228	<code>\textnqsupsetq</code> . . .	18458, 20342
<code>\textnbla</code>	17942, 20123	<code>\textngtr</code>	18194, 20231	<code>\textnRightarrow</code>	17870, 20092
<code>\textnaira</code>	17633	<code>\textngtrapprox</code> . .	19405, 20652	<code>\textnrightharpoon</code>	17775, 20054
<code>\textnapostrophe</code>	15627	<code>\textngtrless</code>	18215, 20240	<code>\textnrisingdoteq</code>	18128, 20201
<code>\textnapprox</code>	18081, 18082, 20181, 20915	<code>\textngtrsim</code>	18209, 20237	<code>\textnrleg</code> .	15776, 15778, 20774
<code>\textnapproxpeq</code> . .	18086, 20183	<code>\textnhateq</code>	18146, 20209	<code>\textnnsim</code>	18064, 20173
<code>\textnasymp</code>	18099, 18100, 20189, 20917	<code>\textni</code> . . .	17950, 17951, 20127, 20900	<code>\textnsimeq</code>	18072, 20177
<code>\textnatural</code>	18946, 20458	<code>\textNibRight</code> . . .	19041, 20495	<code>\textnsqsubset</code> . . .	18265, 20265
<code>\textnbackcong</code> . .	18095, 20187	<code>\textNibSolidRight</code>	19043, 20496	<code>\textnsqsubsetq</code> . .	18273, 20269
<code>\textnbacksim</code> . . .	18059, 20171	<code>\textniepsilon</code> . . .	16006, 16007, 19898, 20795	<code>\textnsqsupset</code> . . .	18269, 20267
<code>\textnbacksimeq</code> . .	18406, 20319	<code>\textniiota</code>	16055, 16056, 19906, 20808	<code>\textnsqsupsetq</code> . .	18277, 20271
<code>\textnBumpeq</code> . . .	18104, 20191	<code>\textnineinferior</code> .	17591, 20009	<code>\textnSubset</code>	18416, 20323
<code>\textnbumpeq</code> . . .	18108, 20193	<code>\textninesuperior</code> .	17559, 19993	<code>\textnsubset</code>	18243, 20254
<code>\textncirceq</code>	18140, 20207	<code>\textninferior</code>	17621, 20024	<code>\textnsubsetq</code>	18251, 20258
<code>\textncong</code>	18077, 20179	<code>\textnphi</code>	16108, 19909	<code>\textnsubseteqq</code> . . .	19468, 20682
<code>\textncurlyeqprec</code>	18446, 20336	<code>\textniupsilon</code> . . .	16166, 16167, 19915, 20836	<code>\textnsucc</code>	18237, 20251
<code>\textncurlyeqsucc</code>	18450, 20338	<code>\textnLeftarrow</code> . . .	17865, 20090	<code>\textnsuccapprox</code> .	19460, 20678
<code>\textnDashV</code>	19490, 19491, 20690, 21067	<code>\textnleftarrow</code> . . .	17773, 20053	<code>\textnsucccurlyeq</code>	18454, 20340
<code>\textnDashv</code>	19483, 19484, 20688, 21065	<code>\textnLeftrightarrow</code>	17867, 20091	<code>\textnsucceq</code>	19436, 20666
<code>\textndashV</code>	19477, 19478, 20686, 21063	<code>\textnlefttrightharpoon</code>	17804, 20068	<code>\textnsucceqq</code> . . .	19448, 20672
<code>\textndashv</code>	18322, 18323, 20288, 20940	<code>\textnleq</code>	18197, 20232	<code>\textnsuccsim</code> . . .	18233, 20249
		<code>\textnleqq</code>	18172, 20220	<code>\textnsuperior</code> . . .	17571, 19999
		<code>\textnleqslant</code> . . .	19393, 20646	<code>\textnSupset</code>	18420, 20325
				<code>\textnsupset</code>	18245, 20255
				<code>\textnsupsetq</code> . . .	18253, 20259
				<code>\textnsupseteqq</code> . .	19472, 20684
				<code>\textntriangleleft</code>	18474, 18475, 20349, 20966

<code>\textntrianglelefteq</code>	18481, 20351	<code>\textointclockwise</code>	18035, 20161	<code>\textparenrightinferior</code>	17601, 20014
<code>\textntrianglerighteq</code>	18477, 18478, 20350, 20967	<code>\textointctrclockwise</code>	18037, 20162	<code>\textparenrightsuperior</code>	17569, 19998
<code>\textntrianglerighteq</code>	18484, 18485, 20352	<code>\textolessthan</code>	19319, 19320, 20614, 21056	<code>\textpartial</code>	17931, 20118
<code>\textntriplesim</code>	18091, 20185	<code>\textOmega</code>	16353, 16405, 19935	<code>\textPeace</code>	19030, 20490
<code>\textntwoheadleftarrow</code>	17779, 20056	<code>\textomega</code>	3190, 3191, 3204, 16471, 16482, 19960	<code>\textPencilRight</code>	19037, 20493
<code>\textntwoheadrightarrow</code>	17786, 20059	<code>\textOmicron</code>	16349, 16386	<code>\textPencilRightDown</code>	19035, 20492
<code>\textNu</code>	16382	<code>\textomicron</code>	3191, 3192, 3195, 3197, 3198, 3199, 3200, 3201, 3202, 16451, 16477	<code>\textPencilRightUp</code>	19039, 20494
<code>\textnu</code>	3192, 3194, 3198, 3199, 3200, 16447, 19949	<code>\textominus</code>	18286, 18287, 20275, 20930	<code>\textpentagon</code>	19509, 20698
<code>\textnumbersign</code>	516, 14702, 15180	<code>\toneighth</code>	17735	<code>\textpercent</code>	518, 14706, 15186
<code>\textnumeralsigngreek</code>	16335	<code>\tonefifth</code>	17723	<code>\textperiodcentered</code>	14851, 15019, 15308, 15309, 15310, 19617, 20751, 20752
<code>\textnumeralsignlowergreek</code>	16338	<code>\tonehalf</code>	14864, 15323	<code>\textperp</code>	19178, 20559
<code>\textnumero</code>	17667	<code>\toneinferior</code>	17575, 20001	<code>\textpertenthousand</code>	17513
<code>\textnupmodels</code>	19499, 20694	<code>\toneninth</code>	17715	<code>\textperthousand</code>	14764, 17511
<code>\textnupvdash</code>	18333, 18334, 20292, 20943	<code>\tonequarter</code>	14862, 15321	<code>\textpeseta</code>	17635
<code>\textnVDash</code>	18361, 18362, 20301, 20952	<code>\toneseventh</code>	17713	<code>\textpeso</code>	17655
<code>\textnVdash</code>	18358, 18359, 20300, 20951	<code>\tonesixth</code>	17731	<code>\textPhi</code>	16398, 19933
<code>\textnvDash</code>	18354, 18355, 18356, 20299, 20949, 20950	<code>\tonesuperior</code>	14855, 15314, 19883	<code>\textphi</code>	3197, 3201, 3202, 16465, 19957
<code>\textnvdash</code>	18351, 18352, 20298, 20948	<code>\tonetenth</code>	17717	<code>\textphiinferior</code>	17142, 19970
<code>\textnVdash</code>	18345, 20296	<code>\tonethird</code>	17719	<code>\textPhone</code>	18791, 18792, 20415, 20983
<code>\textNwarrow</code>	17889, 20099	<code>\textoo</code>	19538, 20703	<code>\textPhoneHandset</code>	19021, 20486
<code>\textnwnarrow</code>	17763, 20049	<code>\textopenbullet</code>	18776, 20409	<code>\textPi</code>	3194, 3196, 16388, 19930
<code>\textnwsearrow</code>	19217, 20577	<code>\textopencorner</code>	16315, 16316	<code>\textpi</code>	3191, 3199, 3200, 3201, 3202, 16453, 19951
<code>\textobar</code>	19305, 19306, 20610, 21051	<code>\textopeno</code>	15981, 15982, 15983, 19894, 20789	<code>\textpinferior</code>	17623, 20025
<code>\textobot</code>	19314, 19315, 20612, 21055	<code>\textoplus</code>	18283, 18284, 20274, 20929	<code>\textpipe</code>	15797, 15798, 15799, 20775
<code>\textobslash</code>	19308, 19309, 19310, 19311, 20611, 21052, 21053, 21054	<code>\textordfeminine</code>	14825, 15280	<code>\textpipevar</code>	15799, 20775
<code>\textObullseye</code>	16220, 20852	<code>\textordmasculine</code>	14857, 15316	<code>\textpisces</code>	18911, 18912, 20453, 21025
<code>\textodiv</code>	19362, 20633	<code>\textoslash</code>	18292, 18293, 20277, 20932	<code>\textpitchfork</code>	18428, 20328
<code>\textodot</code>	18295, 18296, 20278, 20933	<code>\textotimes</code>	18289, 18290, 20276, 20931	<code>\textPlane</code>	19025, 20488
<code>\textogonek</code>	14694, 15113, 15142, 16303	<code>\textovee</code>	18015, 18016, 20153, 20908	<code>\textPlus</code>	19058, 20503
<code>\textogreaterthan</code>	19322, 19323, 20615, 21057	<code>\textowedge</code>	18010, 18011, 20151, 20907	<code>\textPlusCenterOpen</code>	19062, 20505
<code>\textohm</code>	17682	<code>\textparagraph</code>	522, 14849, 15305, 15306, 20750	<code>\textplusinferior</code>	17593, 20010
<code>\textoint</code>	18032, 20160	<code>\textparallel</code>	18003, 20148	<code>\textplusminus</code>	14839, 15018, 15294, 19616
<code>\textoinferior</code>	17607, 20017	<code>\textparenleft</code>	735, 736, 14710, 15194	<code>\textPlusOutline</code>	19056, 20502
<code>\textoint</code>	18029, 18030, 20159, 20910	<code>\textparenleftinferior</code>	17599, 20013	<code>\textplussuperior</code>	17561, 19994
		<code>\textparenleftsuperior</code>	17567, 19997	<code>\textPlusThinCenterOpen</code>	19060, 20504
		<code>\textparenright</code>	14712, 15196	<code>\textpluto</code>	18875, 18876, 20441, 21013
				<code>\textpm</code>	15018, 19616, 20732
				<code>\textpointer</code>	17916, 20111
				<code>\textprec</code>	18219, 20242
				<code>\textprecapprox</code>	19454, 20675

<code>\textpreccurlyeq</code>	18223, 20244	<code>\textquoteright</code>	14772, 15010, 17485, 19608	<code>\textrhooknearrow</code>	19223, 20580
<code>\textpreceq</code>	19430, 20663	<code>\textquotesingle</code>	14774, 17487	<code>\textrhookopeno</code>	17166, 17168, 20868
<code>\textpreceqq</code>	19442, 20669	<code>\textRadioactivity</code>	18818, 18819, 20424, 20992	<code>\textrhookrepsilon</code>	16012, 16013, 16014, 19900, 20796
<code>\textprecnapprox</code>	19462, 20679	<code>\textRain</code>	19001, 20479	<code>\textrhookschwa</code>	16001, 16002, 16003, 20794
<code>\textprecneq</code>	19438, 20667	<code>\textraiseplotstop</code>	16274, 16275	<code>\textrhookswarrow</code>	19227, 20582
<code>\textprecneqq</code>	19450, 20673	<code>\textrangle</code>	18525, 20371	<code>\textRightarrow</code>	17878, 17879, 20095, 20896
<code>\textprecnsim</code>	18470, 20347	<code>\textrbrackdbl</code>	19191, 19192, 20565, 21046	<code>\textrightarrow</code>	2167, 17751, 17752, 17753, 20045, 20889, 20890
<code>\textprecsim</code>	18227, 20246	<code>\textrcurvearrowdown</code>	19248, 19249, 19250, 20589, 21049, 21050	<code>\textrightarrowtail</code>	17792, 20062
<code>\textprime</code>	17515, 19979	<code>\textrcurvearrowleft</code>	19252, 20590	<code>\textrightarrowtriangle</code>	17923, 20114
<code>\textprimstress</code>	16285, 16286	<code>\textrcurvearrowne</code>	19232, 20584	<code>\textrightbarharpoon</code>	19286, 20602
<code>\textprod</code>	17958, 20130	<code>\textrcurvearrowright</code>	19255, 20591	<code>\textRIGHTCIRCLE</code>	18774, 20408
<code>\textpropto</code>	17984, 17985, 20141, 20902	<code>\textrcurvearrowse</code>	19241, 20587	<code>\textrightharpoondown</code>	17833, 20078
<code>\textPsi</code>	16402, 19934	<code>\textRe</code>	17674, 20033	<code>\textrightharpoonup</code>	17830, 20077
<code>\textpsi</code>	16469, 19959	<code>\textrecipe</code>	17676	<code>\textrightleftarrows</code>	17842, 20081
<code>\textPUaolig</code>	19535, 19536, 21072	<code>\textRectangle</code>	19174, 20557	<code>\textrightleftharpoon</code>	19259, 20593
<code>\textPUdblig</code>	15954, 15955, 20779	<code>\textRectangleBold</code>	19176, 20558	<code>\textrightleftharpoons</code>	17862, 20089
<code>\textPUfemale</code>	18848, 18849, 18850, 18851, 18852, 18853, 21000, 21001, 21002, 21003, 21004	<code>\textRectangleThin</code>	19172, 20556	<code>\textrightmoon</code>	18843, 20433
<code>\textPUheng</code>	19526, 19527, 21069	<code>\textrecycle</code>	18950, 18951, 20460, 21032	<code>\textrightrightarrows</code>	17854, 20086
<code>\textPUhookfour</code>	19529, 19530, 21070	<code>\textreferencemark</code>	17527	<code>\textrightrightharpoons</code>	19274, 20598
<code>\textPUnreg</code>	15777, 15778, 20774	<code>\textregistered</code>	14833, 15288	<code>\textrightslice</code>	19428, 20662
<code>\textPUqplig</code>	15957, 15958, 20780	<code>\textRequest</code>	18555, 20382	<code>\textrightsquigarrow</code>	17903, 20106
<code>\textPUrevscr</code>	17123, 17124, 20864	<code>\textrevapostrophe</code>	16271, 16272	<code>\textrightthreetimes</code>	18402, 20317
<code>\textPUrhooka</code>	17154, 17155, 20865	<code>\textrevc</code>	17743	<code>\textrinferior</code>	17130, 19964
<code>\textPUrhooko</code>	17159, 17160, 20866	<code>\textrevE</code>	15752	<code>\textring</code>	14641, 14653, 14665, 14696, 15103, 15132, 16301
<code>\textPUrhookepsilon</code>	17163, 17164, 20867	<code>\textreve</code>	15995, 15996, 19896	<code>\textringlow</code>	15116, 15145, 16310
<code>\textPUrhookopeno</code>	17167, 17168, 20868	<code>\textrevepsilon</code>	16009, 16010, 19899	<code>\textriota</code>	17687, 20035
<code>\textPUscf</code>	19532, 19533, 21071	<code>\textrevglotstop</code>	16206, 16207, 16208, 19923, 20848	<code>\textringdoteq</code>	18126, 20200
<code>\textPUsck</code>	17114, 17115, 20861	<code>\textrevscr</code>	17122, 17124, 20864	<code>\textrm</code>	551
<code>\textPUscm</code>	17117, 17118, 20862	<code>\textrevyogh</code>	15787, 15788	<code>\textrprtr</code>	16280, 16281
<code>\textPUscp</code>	17120, 17121, 20863	<code>\textRewind</code>	18760, 20402	<code>\textrquill</code>	17535
<code>\textPUuncrfemale</code>	18991, 18992, 21035	<code>\textRewindToIndex</code>	18567, 20387	<code>\textRightarrow</code>	17899, 20104
<code>\textQoppa</code>	16484	<code>\textRHD</code>	18751, 20399	<code>\textrrparenthesis</code>	19301, 20608
<code>\textqoppa</code>	16486	<code>\textrhd</code>	18367, 18368, 20303, 20954	<code>\textrtaild</code>	15987, 15988, 15989, 19895, 20791
<code>\textqplig</code>	15956, 15958, 20780	<code>\textRho</code>	16390	<code>\textrtaill</code>	16067, 16068, 16069, 20811
<code>\textquaternnote</code>	18935, 20454	<code>\textrho</code>	3195, 3196, 3201, 3202, 3203, 3204, 16455, 19952		
<code>\textquestiondown</code>	732, 14868, 15327	<code>\textrhoinferior</code>	17140, 19969		
<code>\textquotedbl</code>	14700, 15178	<code>\textrhooka</code>	17153, 17155, 20865		
<code>\textquotedblleft</code>	14768, 15008, 17491, 19606	<code>\textrhooko</code>	17158, 17160, 20866		
<code>\textquotedblright</code>	14770, 17493	<code>\textrhookepsilon</code>	17162, 17164, 20867		

<code>\texttrtailn</code>	16090, 16091, 16092, 20820	<code>\textscu</code> . . .	17125, 17126, 19962	<code>\textSnowflakeChevronBold</code> . .	19142, 20544
<code>\texttrtailr</code>	16124, 16125, 16126, 20828	<code>\textscv</code> . . .	16183, 16184, 19920	<code>\textSoccerBall</code> . .	18996, 18997, 21036
<code>\texttrtails</code>	16140, 16141, 16142, 20831	<code>\textSearrow</code>	17893, 20101	<code>\textspadesuitblack</code>	2166, 18914, 18915, 21026
<code>\texttrtailt</code>	16158, 16159, 16160, 20834	<code>\textSearrow</code>	17768, 17769, 20051, 20894	<code>\textspadesuitwhite</code>	18927
<code>\texttrtailz</code>	16186, 16187, 16188, 20843	<code>\textSech</code>	19568, 20714	<code>\textSparkle</code>	19144, 20545
<code>\texttrtimes</code>	18398, 20315	<code>\textsecond</code>	17517, 19980	<code>\textSparkleBold</code> .	19146, 20546
<code>\textsagittarius</code> . .	18902, 18903, 20450, 21022	<code>\textsecstress</code>	16288, 16289	<code>\textsphericalangle</code>	17993, 17994, 17995, 17996, 20145, 20903, 20904, 20905
<code>\textSampi</code>	16508	<code>\textsection</code>	14819, 15272, 15273, 15274, 20748, 20749	<code>\textsqcap</code>	18279, 20272
<code>\textsampi</code>	16511	<code>\textSePa</code>	19554, 20708	<code>\textsqcup</code>	18281, 20273
<code>\textSampigreek</code>	16507	<code>\textservicemark</code>	17678	<code>\textsqdoublecap</code> .	19366, 19367, 20635, 21059
<code>\textsampigreek</code>	16510	<code>\textsetminus</code> . . .	14722, 17974, 20137	<code>\textsqdoublecup</code> .	19371, 19372, 20637, 21060
<code>\textsaturn</code>	18866, 18867, 20438, 21010	<code>\textseveneighths</code>	17741	<code>\textsqsubset</code>	18263, 20264
<code>\textsc</code>	557	<code>\textseveninferior</code>	17587, 20007	<code>\textsqsubseql</code> . .	18271, 20268
<code>\textscA</code>	17105, 17106	<code>\textsevensuperior</code>	17555, 19991	<code>\textsqsubsetneq</code> .	18460, 18461, 20343, 20964
<code>\textscB</code>	16221, 16222	<code>\textsf</code>	552, 13084, 13087	<code>\textsqsupset</code>	18267, 20266
<code>\textscD</code>	17108, 19961	<code>\textsharp</code>	18948, 20459	<code>\textsqsupseteq</code> . .	18275, 20270
<code>\textscE</code>	17109, 17110	<code>\textshuffle</code>	19339, 20623	<code>\textsqsupsetneq</code> .	18463, 18464, 20344, 20965
<code>\textscF</code> . . .	19531, 19533, 21071	<code>\textSigma</code> .	3193, 16392, 19931	<code>\textSquareCastShadowBottom-Right</code>	19165, 20553
<code>\textscG</code> . . .	16030, 16031, 19902	<code>\textsigma</code> . . .	3190, 3191, 3205, 16459, 19954	<code>\textSquareCastShadowTopRight</code>	19168, 20554
<code>\textsch</code>	16229, 16230	<code>\textsim</code> .	18054, 18055, 20169, 20913	<code>\textssquaredots</code> . .	18047, 20166
<code>\textschwa</code> .	15998, 15999, 19897	<code>\textsimeq</code>	18070, 20176	<code>\textSquareShadowBottomRight</code>	19159, 20551
<code>\textschwainferior</code>	17611, 20019	<code>\textsinferior</code>	17625, 20026	<code>\textSquareTopRight</code> . . .	19162, 20552
<code>\textsci</code> . . .	16057, 16058, 19907	<code>\textSixFlowerAlternate</code>	19126, 20536	<code>\textsslash</code>	19506, 19507, 20697, 21068
<code>\textScissorHollowRight</code>	19019, 20485	<code>\textSixFlowerAltPetal</code> .	19136, 20541	<code>\textstar</code>	18388, 20311
<code>\textScissorRight</code> .	19013, 19014, 19015, 20483, 21039, 21040	<code>\textSixFlowerOpenCenter</code>	19122, 20534	<code>\textsterling</code>	14811, 15261, 15262, 15263, 20745, 20746
<code>\textScissorRightBrokenBottom</code>	19009, 19010, 19011, 21037, 21038	<code>\textSixFlowerPetalRemoved</code>	19119, 20533	<code>\textStigma</code>	16489
<code>\textScissorRightBrokenTop</code>	19017, 20484	<code>\textsixinferior</code> . .	17585, 20006	<code>\textstigma</code>	16492
<code>\textscj</code>	17111, 17112	<code>\textSixStar</code>	19109, 20528	<code>\textstigmagreek</code>	16488
<code>\textscK</code> . . .	17113, 17115, 20861	<code>\textsixsuperior</code> . .	17553, 19990	<code>\textstigmagreek</code>	16491
<code>\textscL</code>	16237, 16238	<code>\textSixteenStarLight</code> . .	19117, 20532	<code>\textstmaryrdbaro</code>	18531, 18532, 20970
<code>\textscM</code> . .	17116, 17118, 20862	<code>\textsixteenthnote</code>	18942, 20456	<code>\textstretchc</code>	16212, 16213, 16214, 16215, 20849, 20850
<code>\textscN</code> . . .	16093, 16094, 19908	<code>\textsl</code>	558	<code>\textstretchcvar</code> . .	16215, 20850
<code>\textscOelig</code>	16100, 16101	<code>\textslashc</code>	15960, 15961, 15963, 19892, 20781, 20782	<code>\textsubbreve</code> . . .	15087, 15118, 15147, 17250, 17252
<code>\textscorpio</code>	18899, 18900, 20449, 21021	<code>\textslashdiv</code>	19515, 20701		
<code>\textscP</code> . . .	17119, 17121, 20863	<code>\textsmallin</code>	17948, 20126		
<code>\textscr</code> . . .	16135, 16136, 19911	<code>\textsmallowns</code> . .	17956, 20129		
<code>\textscripta</code>	15968, 15969, 15970, 19893, 20784	<code>\textsmile</code>	18519, 20368		
<code>\textscriptg</code>	16027, 16028, 16029, 19901, 20800	<code>\textsmiley</code>	18833, 18834, 20429, 20997		
<code>\textscriptv</code>	16169, 16170, 19916	<code>\textSnowflake</code> . .	19140, 20543		
		<code>\textSnowflakeChevron</code> .	19138, 20542		

<code>\textsubcircum</code> .. 15084, 15085, 15117, 15146, 17202, 17204, 17218, 17220, 17278, 17280, 17306, 17308, 17362, 17364, 17374, 17376	<code>\texttherefore</code> ... 18039, 18040, 20163	<code>\textturnt</code> 16154, 16155, 16156, 20833
<code>\textsubring</code> 15077, 15078, 15116, 15145, 17170, 17172	<code>\textTheta</code> . 3204, 16372, 19927	<code>\textturnv</code> 16171, 16172, 16173, 16174, 19917, 20837, 20838
<code>\textSubset</code> 18414, 20322	<code>\texttheta</code> 16437, 19943	<code>\textturnw</code> 16175, 16176, 16177, 16178, 19918, 20839, 20840
<code>\textsubset</code> 18239, 20252	<code>\textthird</code> 17519, 19981	<code>\textturny</code> 16179, 16180, 16181, 16182, 19919, 20841, 20842
<code>\textsubseteq</code> 18247, 20256	<code>\textThorn</code> 14932, 15392, 19884	<code>\textTwelveStar</code> .. 19115, 20531
<code>\textsubseteqq</code> ... 19466, 20681	<code>\textthorn</code> 15001, 15461, 15463, 19885	<code>\texttwo fifths</code> 17725
<code>\textsubsetneq</code> ... 18255, 20260	<code>\textthree eighths</code> 17737	<code>\texttwoheaddownarrow</code> 17788, 20060
<code>\textsubtilde</code> 15088, 15089, 15119, 15148, 17222, 17224, 17254, 17256, 17370, 17372	<code>\textthree fifths</code> 17727	<code>\texttwoheadleftarrow</code> .. 17777, 20055
<code>\textsubumlaut</code> .. 15075, 15076, 15115, 15144, 17366, 17368	<code>\textthree inferior</code> . 17579, 20003	<code>\texttwoheadrightarrow</code> . 17784, 20058
<code>\textsucc</code> 18221, 20243	<code>\textthree quarters</code> 14866, 15325	<code>\texttwoheaduparrow</code> .. 17781, 20057
<code>\textsuccapprox</code> .. 19458, 20677	<code>\textthreesuperior</code> 14843, 15298, 19882	<code>\texttwo inferior</code> .. 17577, 20002
<code>\textsucccurlyeq</code> . 18225, 20245	<code>\texttie</code> ... 15122, 15151, 16328	<code>\texttwo notes</code> ... 18940, 20455
<code>\textsucceq</code> 19434, 20665	<code>\texttilde</code> . 14639, 14651, 14663, 14698, 15101, 15130, 16305	<code>\texttwo superior</code> . 14841, 15296, 19881
<code>\textsucceqq</code> 19446, 20671	<code>\texttildelow</code> 15119, 15148, 16314	<code>\texttwo thirds</code> 17721
<code>\textsuccnapprox</code> . 19464, 20680	<code>\texttimes</code> . 15016, 19614, 20730	<code>\textudots</code> 18491, 20355
<code>\textsuccneq</code> 19440, 20668	<code>\texttin inferior</code> 17627, 20027	<code>\textuinferior</code> 17132, 19965
<code>\textsuccneqq</code> ... 19452, 20674	<code>\texttop</code> . 18325, 18326, 20289, 20941	<code>\textulcorner</code> 18509, 20363
<code>\textsuccnsim</code> ... 18472, 20348	<code>\texttrademark</code> .. 14778, 17680	<code>\textuncrfemale</code> .. 18990, 18992, 21035
<code>\textsuccsim</code> 18231, 20248	<code>\texttriangle</code> 17940, 20122	<code>\textunderscore</code> 521, 4770, 4771, 4773, 14726, 15240, 15241, 20743
<code>\textsum</code> 17962, 20132	<code>\texttriangle eq</code> .. 18148, 20210	<code>\textunlhd</code> 18370, 18371, 18372, 20304, 20955, 20956
<code>\textsun</code> . 18838, 18839, 20431, 20998	<code>\texttriangle left</code> .. 18763, 20403	<code>\textunrhd</code> 18374, 18375, 18376, 20305, 20957, 20958
<code>\textSunCloud</code> ... 18999, 20478	<code>\texttriangle right</code> . 18749, 20398	<code>\textup</code> 559
<code>\textSunshineOpenCircled</code> 19134, 20540	<code>\texttriplesim</code> ... 18088, 18089, 20184, 20916	<code>\textUParrow</code> ... 18738, 18739, 20395, 20976
<code>\textSupset</code> 18418, 20324	<code>\textTslash</code> 15687	<code>\textUparrow</code> ... 17875, 20094
<code>\textsupset</code> 18241, 20253	<code>\textt slash</code> 15689	<code>\textuparrow</code> 17749, 20044
<code>\textsupseteq</code> 18249, 20257	<code>\texttlig</code> 16256, 16257	<code>\textUpdownarrow</code> 17887, 20098
<code>\textsupseteqq</code> ... 19470, 20683	<code>\textttt</code> 553	<code>\textupdownarrow</code> . 2169, 17761, 20048
<code>\textsupsetneq</code> ... 18257, 20261	<code>\textTumbler</code> 18529, 20373	<code>\textupdownarrows</code> 17845, 20082
<code>\textsurd</code> 17982, 20140	<code>\textturna</code> 15964, 15965, 15966, 20783	<code>\textupdownharpoonleftright</code> .. 19265, 20595
<code>\textSwarrow</code> 17895, 20102	<code>\textturnh</code> 16039, 16040, 16041, 16042, 20802, 20803	<code>\textupdownharpoonrightleft</code> .. 19262, 20594
<code>\textswarrow</code> 17771, 20052	<code>\textturnk</code> 16234, 16235, 16236, 20854	<code>\textupdownharpoons</code> .. 19292, 20604
<code>\TextSymbolUnavailable</code> 14672, 14673, 14675	<code>\textturnlongleg</code> . 16114, 16115, 16116, 20825	<code>\textupharpoonleft</code> 17827, 20076
<code>\textTape</code> 19023, 20487	<code>\textturnm</code> 16073, 16074, 16075, 16076, 20813, 20814	<code>\textupharpoonright</code> ... 17824, 20075
<code>\textTau</code> 16394	<code>\textturnmrleg</code> .. 16078, 16079, 16080, 20815	<code>\textuplus</code> 19341, 20624
<code>\texttau</code> 3192, 3196, 3198, 3199, 3200, 16461, 19955	<code>\textturnr</code> 16109, 16110, 16111, 16112, 20823, 20824	
<code>\texttaurus</code> 18881, 18882, 20443, 21015	<code>\textturnrrtail</code> ... 16118, 16119, 16120, 20826	
<code>\texttctclig</code> 16262, 16263	<code>\textturnsck</code> 16236, 20854	
<code>\textTent</code> 19007, 20482	<code>\textturnscripta</code> .. 15972, 15973, 15974, 15975, 20785, 20786	
<code>\texttshlig</code> 16258, 16259, 16260, 20856		

<code>\textupmodels</code> . . .	19497, 20693	<code>\textWritingHand</code> 19032, 19033,	<code>\theHtheorem</code>	6887
<code>\textUpsilon</code>	16351, 16396,	20491, 21042	<code>\theHthm</code>	6888
16410, 19932		<code>\textwynn</code>	<code>\theHy@tempcnt</code> . . .	4886, 4894,
<code>\textupsilon</code> . . .	3191, 3199, 3200,	15794, 15795	4901	
3202, 16463, 16475, 16480,		<code>\textXi</code>	<code>\thempfn</code> 7335, 7438, 7531, 7544	
19956		16384, 19929	<code>\theoremautorefname</code> 2984, 3002,	
<code>\textupsilonacute</code> 16421, 16479		<code>\textxi</code>	3020, 3038, 3056, 3074,	
<code>\textupspoon</code>	19501, 20695	3190, 16449, 19950	3092, 3130, 3150, 3168,	
<code>\textupstep</code>	19520, 19521	<code>\textxinferior</code>	3186, 3204, 3222, 3240,	
<code>\textupuparrows</code> .	17852, 20085	17609, 20018	3258, 3276, 8621	
<code>\textupupharpoons</code> 19271, 20597		<code>\textXSolid</code>	<code>\thepage</code> 2186, 5006, 6520, 6546,	
<code>\texturanus</code> 18869, 18870, 20439,		19050, 20499	6561, 7802, 7903, 7950,	
21011		<code>\textXSolidBold</code> .	8031, 8085, 8243, 8260,	
<code>\texturcorner</code>	18511, 20364	<code>\textXSolidBrush</code> 19054, 20501	8273, 8277, 8289, 8374,	
<code>\textValve</code>	19335, 20621	<code>\textxswup</code>	8394, 8411, 8543	
<code>\textvarhexagon</code> .	19511, 20699	18961, 21034	<code>\therefore</code>	18038, 20163
<code>\textvarobar</code>	19306, 21051	<code>\texttyen</code>	<code>\Theta</code>	16371, 19927
<code>\textvarsigma</code> 3195, 3201, 3202,		14815, 15267	<code>\theta</code>	16436, 19943
16457, 19953		<code>\textYinYang</code> . . .	<code>\third</code>	17518, 19981
<code>\textVDash</code> 18348, 18349, 20297,		18825, 18826,	<code>\thispdfpagelabel</code>	6525
20947		18827, 18828, 20427, 20993,	<code>\ThisShouldNotHappen</code> . .	13807
<code>\textVdash</code> 18340, 18341, 20294,		20994, 20995	<code>\Thorn</code> . . .	14930, 15390, 19884
20946		<code>\textyogh</code> .	<code>\thorn</code>	14999, 15461, 19885
<code>\textvDash</code> 18336, 18337, 18338,		16193, 16194, 19921	<code>\threeinferior</code>	20003
20293, 20944, 20945		<code>\textzeroinferior</code> .	<code>\threesuperior</code>	19882
<code>\textvdash</code> 18316, 18317, 20286,		17573, 20000	<code>\tildel</code>	16062, 20809
20938		<code>\textzerosuperior</code> .	<code>\times</code>	20730
<code>\textvdotdot</code>	18045, 20165	17545, 19986	<code>\tinferior</code>	20027
<code>\textvdots</code>	18487, 20353	<code>\textzerothirds</code>	<code>\tiny</code>	581
<code>\textvee</code>	18013, 20152	17745	<code>\title</code>	6422, 6424
<code>\textveebar</code>	18384, 20309	<code>\textZeta</code>	<code>\tl</code>	2317, 5048, 5061
<code>\textveedot</code>	19182, 20561	16368	<code>\TMP@EnsureCode</code>	
<code>\textveedoublebar</code> 19383, 20641		<code>\textzeta</code> . . . . .	. . . . .	4633, 4640, 4641, 4642,
<code>\textvertline</code>	15251, 20744	16433, 19941	4643, 4644, 4645, 4646,	
<code>\textvibyi</code>	16149, 16150	<code>\textZwdr</code>	4647, 4648, 4649, 4650,	
<code>\textvibyy</code>	16268, 16269	19570, 20715	4651, 4652, 4653, 4654,	
<code>\textVier</code>	19564, 20712	<code>\textZwPa</code>	4655, 4656, 4657, 4658,	
<code>\textvinferior</code>	17134, 19966	19556, 20709	4659, 4660, 4661, 4662,	
<code>\textViPa</code>	19550, 20706	<code>\TH</code> .	4663, 4664, 4665, 4666	
<code>\textvirgo</code> 18893, 18894, 20447,		14930, 14931, 15390, 15391	<code>\tocappendix</code>	1305
21019		<code>\th</code> .	<code>\tocchapter</code>	1304
<code>\textvisiblespace</code>	18571	14999, 15000, 15461, 15462	<code>\toclevel@chapter</code>	3413
<code>\textVdash</code>	18343, 20295	<code>\thaa</code>	<code>\toclevel@figure</code>	3419
<code>\textwasylozenge</code> .	18501, 20360	19775	<code>\toclevel@paragraph</code>	3417
<code>\textwedge</code>	18008, 20150	<code>\thanks</code>	<code>\toclevel@part</code>	3409, 3411
<code>\textwedgedot</code> . . .	19184, 20562	6468	<code>\toclevel@section</code>	3414
<code>\textWheelchair</code> . .	18953, 20461	<code>\thebookmark@seq@number</code> . .	<code>\toclevel@subparagraph</code> . .	3418
<code>\textWomanFace</code> .	19578, 19579,	. . . . .	<code>\toclevel@subsection</code>	3415
20719, 21075		14229	<code>\toclevel@subsubsection</code> . .	3416
<code>\textwon</code>	17637	<code>\thefootnote</code>	<code>\toclevel@table</code>	3420
<code>\textwp</code>	17672, 20032	7346, 7551	<code>\tocparagraph</code>	1309
<code>\textwr</code>	18061, 18062, 20172,	<code>\theHchapter</code> .	<code>\tocpart</code>	1303
20914		6878, 6879, 6880,	<code>\tocsection</code>	1306
		6881, 7014	<code>\tocsubsection</code>	1307
		<code>\theHenumi</code>		
		6897		
		<code>\theHenumii</code>		
		6898		
		<code>\theHenumiii</code>		
		6899		
		<code>\theHenumiv</code>		
		6900		
		<code>\theHequation</code> 6867, 6869, 7276,		
		7300, 7303		
		<code>\theHfigure</code>		
		6875, 6879		
		<code>\theHHfootnote</code>		
		6901, 6904		
		<code>\theHHmpfootnote</code>		
		6904		
		<code>\theHItem</code> . . .		
		6891, 6897, 6898,		
		6899, 6900		
		<code>\theHmpfootnote</code>		
		6902		
		<code>\theHpage</code>		
		7907		
		<code>\theHparagraph</code>		
		6885, 6886		
		<code>\theHparentequation</code> 7300, 7303		
		<code>\theHpart</code>		
		6871		
		<code>\theHsection</code> .		
		6867, 6874, 6881,		
		6883, 6887, 6888, 7012		
		<code>\theHsubequation</code>		
		7276		
		<code>\theHsubparagraph</code>		
		6886		
		<code>\theHsubsection</code> . . .		
		6883, 6884		
		<code>\theHsubsubsection</code> .		
		6884, 6885		
		<code>\theHtable</code>		
		6876, 6880		

<code>\tocsubsubsection</code>	1308	<code>\typeout</code>	5, 6, 7, 19, 26, 27, 36, 131, 155, 158, 159, 160, 5291, 21081	<code>\upspoon</code>	19500, 20695
<code>\toks</code>	8382, 8383, 8385, 14542, 14547, 14610, 14615			<code>\upuparrows</code>	17851, 20085
<code>\toks@</code>	171, 208, 941, 964, 967, 969, 3288, 3289, 3291, 3882, 3886, 3887, 3895, 4328, 4329, 4528, 4530, 5140, 5145, 5151, 5157, 5158, 5161, 5261, 5266, 5270, 5274, 6641, 6643, 6729, 6731, 6790, 6802, 7122, 7127, 7416, 7419, 8124, 8125, 8347, 8352, 8354, 8357, 14541, 14547, 14609, 14615	U		<code>\upvdash</code>	18331, 20942
<code>\top</code>	18324, 20289	<code>\U</code>	15051, 16551, 16574, 16641, 16721, 16922, 16924, 16946, 16948, 16958, 16960	<code>\Uranus</code>	18870, 21011
<code>\topmargin</code>	7963	<code>\u</code>	15049, 15107, 15136, 15166, 15471, 15473, 15513, 15515, 15533, 15535, 15566, 15568, 15569, 15639, 15641, 15699, 15701	<code>\urcorner</code>	18510, 20364
<code>\triangle</code>	17939, 20122	<code>\ubar</code>	16164, 20835	<code>\Url</code>	4950
<code>\triangleeq</code>	18147, 20210	<code>\udesc</code>	16042, 20803	<code>\url</code>	4949, 4953
<code>\triangleleft</code>	18762, 20403	<code>\udots</code>	18490, 20355	<code>\url@</code>	4953, 4954
<code>\trianglelefteq</code>	18372, 20956	<code>\UHORN</code>	19631, 19742, 19743, 19744, 19745, 19746	<code>\use</code>	478, 484, 5039
<code>\triangleright</code>	18748, 20398	<code>\uhorn</code>	3172, 3179, 19625, 19682, 19683, 19684, 19685, 19686	<code>\use@file</code>	5222, 5224, 5231
<code>\trianglerighteq</code>	18376, 20958	<code>\uinferior</code>	19965	<code>\usefont</code>	548
<code>\triplesim</code>	18087, 20184	<code>\ulcorner</code>	18508, 20363	<code>\UseHook</code>	7088, 7104
<code>\tryhyper@link</code>	4980, 4982	<code>\UnDef</code>	12262	<code>\utf@viii@undeferr</code>	508
<code>\ttfamily</code>	563	<code>\undefined</code>	232	<code>\UTFviii@four@octets</code>	1907, 1916
<code>\ttl@b</code>	7133, 7138	<code>\unexpanded</code>	1466, 1473	<code>\UTFviii@loop</code>	1895
<code>\ttl@Hy@PatchSaveWrite</code>	7116, 7120	<code>\unhbox</code>	11239, 13498, 13620, 13652, 13676, 13704, 13733	<code>\UTFviii@three@octets</code>	1906
<code>\ttl@Hy@refstepcounter</code>	7132	<code>\unhcopy</code>	13600	<code>\UTFviii@tmp</code>	1894
<code>\ttl@Hy@saveanchor</code>	7111, 7135	<code>\unichar</code>	1911	<code>\UTFviii@two@octets</code>	1905
<code>\ttl@Hy@SavedCurrentHref</code>	7115, 7126	<code>\Unicode</code>	1017		
<code>\ttl@Hy@steplink</code>	7109	<code>\unlhd</code>	18369, 20304	V	
<code>\ttl@savewrite</code>	7122, 7124	<code>\unrestored@protected@xdef</code>	7335, 7346, 7493, 7500, 7544, 7551	<code>\v</code>	14642, 14654, 14666, 14788, 14793, 14801, 14803, 15062, 15104, 15133, 15165, 15491, 15493, 15495, 15497, 15525, 15527, 15603, 15605, 15623, 15625, 15659, 15661, 15675, 15677, 15683, 15685, 15733, 15735, 15809, 15811, 15813, 15815, 15816, 15818, 15820, 15822, 15824, 15833, 15835, 15837, 15839, 15845, 15846, 15924, 15926
<code>\Tumbler</code>	18528, 20373	<code>\unrhd</code>	18373, 20305	<code>\V@@@footnotetext</code>	7480
<code>\turnv</code>	19917	<code>\unskip</code>	7321	<code>\V@footnotetext</code>	7465
<code>\turnw</code>	19918	<code>\UParrow</code>	18737, 20395	<code>\value</code>	6544, 7000, 7001, 7003, 7004, 7749, 7775, 7967, 8142, 9897
<code>\turny</code>	19919	<code>\Uparrow</code>	17874, 20094	<code>\Valve</code>	19334, 20621
<code>\tw@</code>	4520, 5090, 5096, 5097, 5098, 5103, 5109, 5110, 5111, 14542, 14547, 14610, 14615	<code>\uparrow</code>	20044	<code>\vara</code>	15970, 20784
<code>\TwelveStar</code>	19114, 20531	<code>\Updownarrow</code>	17886, 20098	<code>\varangle</code>	17994, 20903
<code>\twoheaddownarrow</code>	17787, 20060	<code>\updownarrow</code>	17760, 20048	<code>\varbigcirc</code>	18782, 20982
<code>\twoheadleftarrow</code>	17776, 20055	<code>\updownharpoonleftright</code>	19264, 20595	<code>\varcurlyvee</code>	18409, 20960
<code>\twoheadrightarrow</code>	17783, 20058	<code>\updownharpoonrightleft</code>	19261, 20594	<code>\varcurlywedge</code>	18412, 20961
<code>\twoheaduparrow</code>	17780, 20057	<code>\updownharpoons</code>	19291, 20604	<code>\VarFlag</code>	18956, 21033
<code>\twoinferior</code>	20002	<code>\upharpoonleft</code>	17826, 20076	<code>\varg</code>	16029, 20800
<code>\twonotes</code>	18939, 20455	<code>\upharpoonright</code>	17823, 20075	<code>\varhexagon</code>	19510, 20699
<code>\twosuperior</code>	19881	<code>\uplus</code>	19340, 20624	<code>\vari</code>	16056, 20808
<code>\TX@endtabularx</code>	7409, 7416, 7422	<code>\upmodels</code>	19496, 20693	<code>\varint</code>	18023, 20909
		<code>\upshape</code>	569	<code>\varnothing</code>	17936, 17938, 20899
		<code>\Upsilon</code>	16395, 19932	<code>\varoast</code>	18303, 20936
		<code>\upsilon</code>	16462, 19956	<code>\varobslash</code>	19311, 21054
				<code>\varocircle</code>	18300, 20935

<code>\varodot</code>	18296, 20933	<code>\vTeX@trans@special</code> . . .	10684, 4290, 4293, 4326, 4327,
<code>\varogreaterthan</code> .	19323, 21057		10686, 10689, 10693, 10697,
<code>\varoint</code>	18030, 20910		10701, 10703, 10705, 10709,
<code>\varolessthan</code>	19320, 21056		10715, 10716, 10719
<code>\varomega</code>	16106, 20822	<code>\VTexInitMediaSize</code> . . .	10355,
<code>\varominus</code>	18287, 20930		10381
<code>\varopeno</code>	15983, 20789	<code>\VTexOS</code>	10748, 10749, 10750,
<code>\varoplus</code>	18284, 20929		10752
<code>\varoslash</code>	18293, 20932	<code>\VTexversion</code>	6696, 6699, 6702,
<code>\varotimes</code>	18290, 20931		10740, 10744
<code>\varovee</code>	18016, 20908	<code>\Vdash</code>	18342, 20295
<code>\varowedge</code>	18011, 20907		
<code>\varparallel</code>	19507, 21068	W	
<code>\varparallelinv</code> . . .	18574, 20971	<code>\wasylounge</code>	18500, 20360
<code>\varprop</code>	17985, 20902	<code>\waw</code>	19823
<code>\varsigma</code>	19953	<code>\wawhamza</code>	19761
<code>\varsubsetneq</code>	18461, 20964	<code>\wd</code>	9487, 9503, 9524, 9541, 9564,
<code>\varsubsetneq</code>	18464, 20965		9581, 13447
<code>\vartimes</code>	15376, 20753	<code>\wedge</code>	18007, 20150
<code>\vavyod</code>	17099	<code>\wedgedot</code>	19183, 20562
<code>\vbox</code>	6198, 6199, 6200, 6201,	<code>\Wheelchair</code>	18952, 20461
	6493, 7961	<code>\with</code>	15190, 20742
<code>\VDash</code>	18347, 20297	<code>\WomanFace</code>	19577, 20719
<code>\Vdash</code>	18339, 20294	<code>\Womanface</code>	19579, 21075
<code>\vDash</code>	18335, 20293	<code>\wp</code>	17671, 20032
<code>\vdash</code>	18315, 20286	<code>\wr</code>	18060, 20172
<code>\vdotdot</code>	18044, 20165	<code>\wreath</code>	18062, 20914
<code>\vdots</code>	18486, 20353	<code>\write</code>	4841, 5378, 5380, 6394,
<code>\vee</code>	18012, 20152		6819, 6827, 7733, 7748,
<code>\veebar</code>	18383, 20309		7764, 7774, 7793, 7823,
<code>\veedot</code>	19181, 20561		12983, 12986, 13014, 13029
<code>\veedoublebar</code> . . .	19382, 20641	<code>\WriteBookmarks</code> . . .	4266, 4392,
<code>\Venus</code>	18852, 21003		4602, 4624, 14163, 14406,
<code>\venus</code>	18851, 21002		14436, 14437, 14479, 14485
<code>\vfill</code>	6198, 6199, 6200, 6201	<code>\WritingHand</code>	19031, 20491
<code>\VHF</code>	18089, 20916	<code>\Writinghand</code>	19033, 21042
<code>\Vier</code>	19563, 20712	<code>\wwwbrowser</code>	9441, 9526, 9543
<code>\vinferior</code>	19966		
<code>\ViPa</code>	19549, 20706	X	
<code>\Virgo</code>	18894, 21019	<code>\x</code>	21, 25, 92,
<code>\virgo</code>	18892, 20447		98, 168, 169, 176, 178, 206,
<code>\vod</code>	16033, 16035, 20801		209, 210, 211, 212, 213, 214,
<code>\voffset</code>	7962		215, 216, 217, 218, 219, 220,
<code>\voicedh</code>	16046, 20805		221, 222, 223, 224, 225, 226,
<code>\vpageref</code>	8463, 8471, 8480, 8488		227, 228, 273, 278, 279, 917,
<code>\vphantom</code>	584		923, 1404, 1432, 1847, 1849,
<code>\Vr@f</code>	8466		2270, 2280, 2289, 2299,
<code>\vr@f</code>	8475		2388, 2389, 2394, 2410,
<code>\vref@pagenum</code>	7147		3299, 3302, 3306, 3319,
<code>\Vref@star</code>	8459		3430, 3431, 3434, 3435,
<code>\vref@star</code>	8484		3436, 3440, 3443, 3449,
<code>\vskip</code>	2275, 2276		3885, 3891, 3894, 3897,
<code>\vss</code>	7976		4167, 4168, 4173, 4174,
			4282, 4283, 4284, 4287,
			4290, 4293, 4326, 4327,
			4329, 4330, 4529, 4532,
			4840, 4846, 5237, 5238,
			5239, 5251, 5262, 5263,
			5264, 5265, 5268, 5269,
			5314, 5317, 5399, 5413,
			5438, 5442, 5445, 5455,
			5990, 5994, 6444, 6445,
			6450, 7123, 7130, 7163,
			7172, 7174, 7186, 8043,
			8045, 8354, 8355, 8384,
			8387, 8423, 8424, 8425,
			8427, 8429, 8844, 8853,
			9716, 9717, 9718, 9720,
			9721, 9722, 9724, 9725,
			9726, 9728, 9729, 9730,
			9732, 9733, 9734, 9736,
			9737, 9738, 9740, 9741,
			9742, 9744, 9745, 9747,
			9753, 9762, 10862, 10867,
			10871, 11243, 11246, 11252,
			11257, 11405, 11406, 12564,
			12584, 13165, 13185, 13521,
			13541, 14546, 14548, 14614,
			14616
		<code>\XBox</code>	18801, 20986
		<code>\XeTeXLink@font</code> . . .	5076, 5079
		<code>\XeTeXLink@space</code> . .	5077, 5092,
			5106
		<code>\XeTeXLinkBox</code>	5083, 5115
		<code>\XeTeXLinkMargin</code> . .	5073, 5074,
			5089, 5091, 5102, 5104
		<code>\XeTeXrevision</code>	4589
		<code>\XeTeXversion</code>	4589
		<code>\Xi</code>	16383, 19929
		<code>\xi</code>	16448, 19950
		<code>\xinferior</code>	20018
		<code>\XR@@dURL</code>	2203, 2204
		<code>\XR@addURL</code>	2203
		<code>\XR@ext</code>	2496, 2497, 5220, 5223,
			6694, 8684, 9337, 9440,
			9704, 10239, 11599, 11705,
			11772, 11979, 12150
		<code>\XR@URL</code>	2208
		<code>\XSolid</code>	19049, 20499
		<code>\XSolidBold</code>	19051, 20500
		<code>\XSolidBrush</code>	19053, 20501
		<code>\xspace</code>	644, 646
		<code>\xspaceaddeceptions</code>	4240, 4249
		Y	
		<code>\y</code>	278, 280, 287,
			293, 2390, 2395, 2400, 3436,
			3437, 3438, 3439, 4285,

4288,	4291,	4294,	4296,	1633,	2222,	2227,	2261,	14065,	14084,	14095,	14100,
4302,	5240,	5241,	5242,	2284,	2578,	2581,	2674,	14131,	14136,	14240,	14241,
5243,	5251,	6445,	6453,	2758,	3442,	3448,	4167,	14242,	14243,	14244,	14245,
7159,	7161,	7162,	7165,	4169,	4598,	5086,	5088,	14246,	14247,	14248,	14249,
7172,	11248,	11249,	11250,	5096,	5097,	5100,	5101,	14582			
11251				5109,	5110,	5118,	5119,	\z@skip	.....	
\ya	.....	19827		6697,	6700,	7478,	9259,	\za	.....	1	
\yahamza	.....	19765		9263,	9268,	9272,	9279,	\zay	.....	1	
\YingYang	.....	18827,	20994	9280,	9284,	9285,	9292,	\zeroinferior	.....	2	
\Yingyang	.....	18828,	20995	9293,	9294,	10213,	10214,	\zerosuperior	.....	1	
\YinYang	.....	18824,	20427	10217,	10218,	10224,	10225,	\zeta	.....	16432,	1
\Yinyang	.....	18826,	20993	10226,	10357,	10358,	10362,	\zref@extractdefault	....	1	
\yogh	.....	16193,	19921	10363,	10370,	10371,	10372,	\zref@ifrefcontainsprop	..	1	
				10739,	10763,	10985,	11286,	\zref@ifrefundefined	.....	1	
Z				11300,	11671,	11672,	11675,	\zref@labelbyprops	.....	1	
\z	279,	280,	288,	294,	2392,	2393,		\zref@refused	.....	1	
	2394,	5243,	5251					\Zwdr	.....	19569,	2
\z@	1133,	1173,	1186,	1202,	1217,			\ZWNJ	.....	1	
	1225,	1298,	1532,	1538,				\ZwPa	.....	19555,	2
	1544,	1617,	1621,	1629,							